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Plantae Lind-
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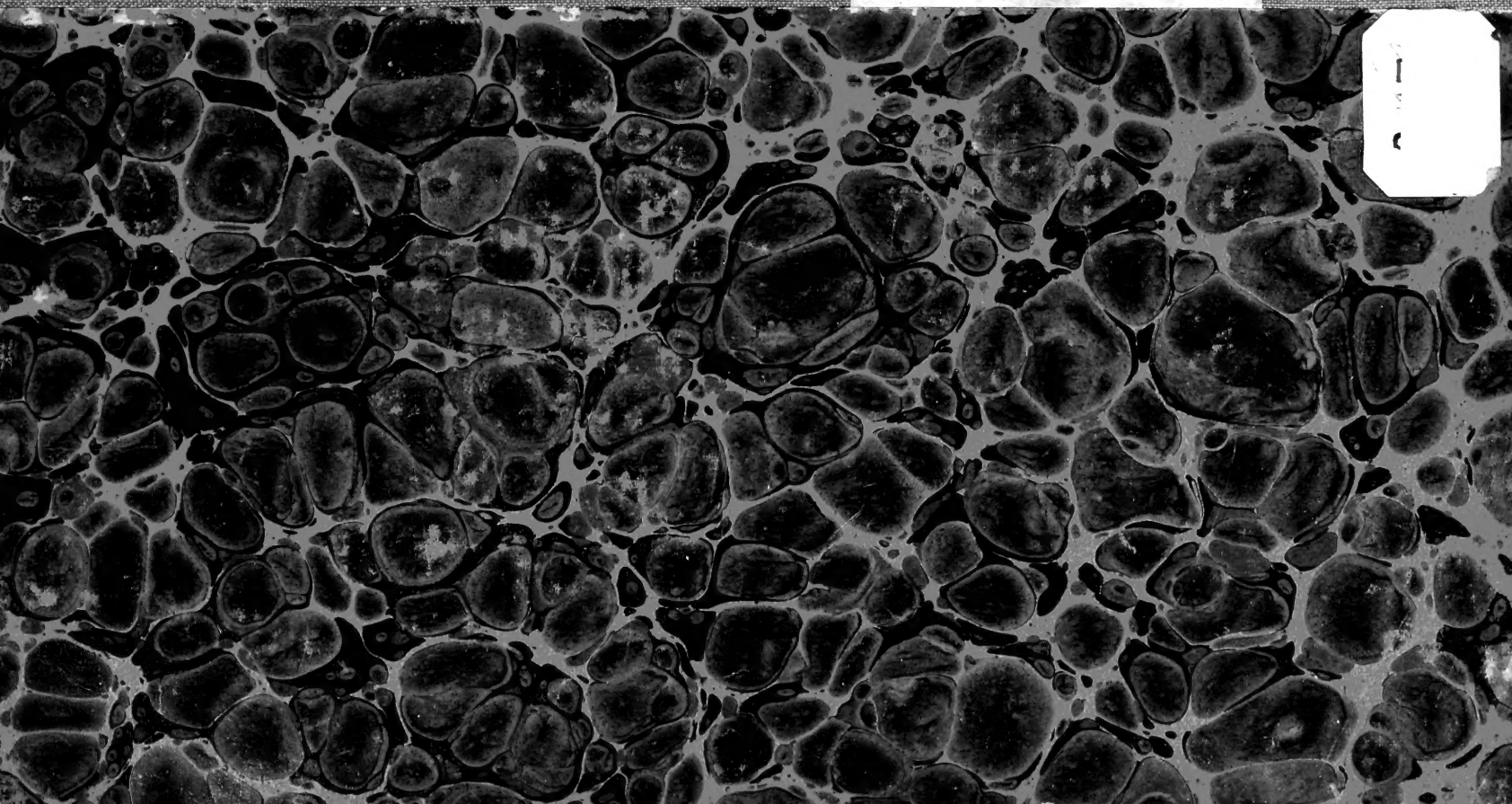

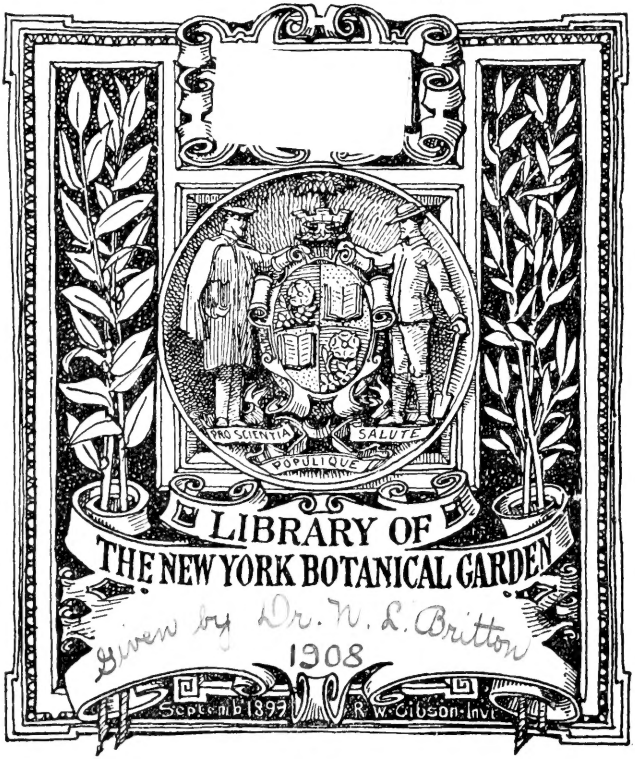
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Plantae Lindheimerianae
Part III.

By J. W. BLANKINSHIP.

(From the Eighteenth Annual Report of the Missouri Botanical Garden.)

ISSUED NOV. 25, 1907.

F. Lindheimer

PLANTAE LINDHEIMERIANAE.

PART III.

BY J. W. BLANKINSHIP.

On the death of Dr. George Engelmann his entire herbarium was presented to the Missouri Botanical Garden by his son, Dr. George J. Engelmann, and became the nucleus of the herbarium of that institution. Among the duplicates that came with the Engelmann herbarium was a considerable number of Lindheimer's Texas plants, which were at first supposed to be the undistributed portion of the exsiccatae described in "Plantae Lindheimerianae," but later it was found that they were an undistributed collection made subsequent to the specimens described in that publication and represented the work of Mr. Lindheimer during the years 1849, 1850 and 1851. At the suggestion of the Director of the Garden, these collections have been carefully studied during the present year, and this paper prepared to complete the work of the first two parts of Plantae Lindheimerianae and render the data there contained more accessible to those concerned with the flora of Texas and regions adjacent, while the plants themselves have been labeled and laid out into sets for distribution to correspondents of the Botanical Garden. This final collection of Mr. Lindheimer proves to be of considerable importance, not only from its historical interest, but also from the fact that it contains a large number of the type collections, since described in various publications and many more from the type locality, made by the original discoverer of the species, while the great majority of the species are relatively rare in many of our herbaria, the older distributions having gone largely to Europe. The plants themselves are in a fairly good state of preservation, considering the lapse of more than half a century since their collection, the ravages of the usual herbarium pests and the accidents of transportation and storage during this time.

Mr. Lindheimer, it appears, began collecting and studying the flora of Texas immediately upon his arrival there in 1836, but it was not till about 1842, after the political conditions became more settled, that he collected in any quantity, and early in the following year Dr. George Engelmann suggested to Gray that they coöperate with Lindheimer by naming and distributing his collections of Texas plants, so as to enable him to devote his whole time to this work and thus advance the cause of science in a land then almost wholly unknown botanically. The outcome of this undertaking was the collection of four fascicles of plants bearing the numbers 1 to 754, and the publication of the first two parts of Plantae Lindheimerianae describing a part of them. Fascicle I contained 214 species collected in 1843; Fascicle II represented the 1844 collection with nos. 215-318; Fascicle III consisted of nos. 319-574 of 1845-6; and Fascicle IV, comprising nos. 575-754, was collected in 1847-8. The specimens of the collection of 1849-1851, here treated, were probably intended to form Fascicle V. It appears that the first two fascicles were issued in about 20 sets, only some 9 of which were at all full, while Fascicle IV contained about 40 sets.* The collection of 1849-1851 contains about 650 numbers and there

* The following appear to have been subscribers for the whole or part of the first four fascicles of the "Flora Texana Exsiccata," as shown by Gray's unpublished letters to Engelmann:

Alexander, Dr.; England.
Bentham, George; England.
Boissier Herbarium; Geneva.
Braun, Alexander; Berlin.
British Museum; London.
Buckley, S. B.; Texas.
Carey, S. T.; New York.
Cleaveland, Prof. P.; Brunswick, Me.
Durand, Elias.
Engelmann, George; St. Louis, Mo.
Fielding, H. B.; England.
Gray, Asa; Cambridge, Mass.
Greene, B. D.; Boston.
Harvey, Prof.; Dublin.
Jardin des Plantes; Paris.
Kew Gardens; England.
Lamson, Prof.; Kingston, Canada.
Leman.
Lowell, John A.; Cambridge, Mass.
Oakes, William; Ipswich, Mass.
Olney, S. T.; Providence, R. I.
Saunders, William; England.
Shuttleworth, R. J.; England.
Smithsonian Institution, Washington.
Stevens.
Sullivant, Wm. L.; Columbus, O.
Thurber, George.
Torrey, John; New York.
Webb, Barker.

will be some 50 sets for distribution, of which about 35 are fairly full. This last collection of Mr. Lindheimer is therefore about as large as all the others together and duplicates a considerable number of their species. The more recent herbaria will consequently be fortunate in thus being able to secure representatives of this early Lindheimer set of exsiccatae.

It appears to have been the original plan of Engelmann and Gray to give a number to each different species collected, but this was abandoned largely in the later fascicles and, in the present paper, a number has been assigned to each separate collection, as far as possible, thus ensuring a single locality and date for each, while the whole has been printed on the label itself, instead of merely the number, as was the case with Fascicles I-IV, where the information was supposed to be supplied by the publication of Plantae Lindheimerianae and often several different collections of a species were issued under a single number. Unfortunately this publication was left incomplete at the end of the Compositae (Bentham & Hooker sequence) for Fascicles III and IV, so that there have been no data given for numbers 449-574 (Fasc. III) and 652-754 (Fasc. IV), as found in various herbaria, and these will be supplied in the present paper, as far as the numbered specimens in the Engelmann herbarium permit. Unfortunately the existence of these numbers beyond 651 of the Plantae Lindheimerianae was not discovered till the printing of the labels of the 1849-1851 collection was so far advanced as to make renumbering impracticable, so that the numbers 652-754 are duplicated in Fascicles IV and V, but this need cause no confusion, as the dates and different form of label will readily distinguish each in herbaria, while the difference in the orders covered (Lobeliaceae-Marsiliaceae of Fasc. IV and Ranunculaceae-Leguminosae of Fasc. V,—B. & H. sequence) will enable the two to be distinguished even in publication.

A certain confusion has also arisen through authors quoting not only the exsiccatae numbers but also Lindheimer's collection numbers, when these happened to be on specimens examined in the Engelmann herbarium, or occasionally found

elsewhere. Lindheimer gave a number to each collection in the field, usually with more or less data in German as to habitat, locality, date, etc., his numbers following in order of collection. Engelmann then arranged the collections by orders and species after the Bentham and Hooker sequence, and gave independent numbers to the exsiccatae, following this sequence. However, a large number of Lindheimer's collections were never made in quantity, hence were never numbered for the exsiccatae and have only his own collection label in the Engelmann herbarium, and this must be remembered in quoting Lindheimer specimens, only the Engelmann label being printed. Throughout the present paper both numbers have been given, so as to enable the two to be identified, if needful, Lindheimer's collection number being preceded by "L."

The purpose of the present paper is not only to give a list of the species of this last Lindheimer collection of 1849-1851, preliminary to their distribution, but also to enumerate the species of the missing numbers of parts I and II of Plantae Lindheimerianae, as far as such can be found, and to give an index to the whole, as an aid to other botanists interested in the flora of Texas. There will be added a brief account of the pioneer-botanist-editor, Lindheimer himself, the importance and magnitude of whose work has scarcely been appreciated, and also a general bibliography of Texas botany.

Considerable of the work of classification and determination of the collections treated in this paper was done by Prof. A. S. Hitchcock some 15 years ago, and many of the determinations of Fascicles III and IV are by Engelmann and Gray, while I am indebted to Professor Trelease for advice and assistance in the preparation and arrangement of the work.

Much of the data concerning the life and work of Mr. Lindheimer has been supplied by his son, Mr. M. E. Lindheimer, of Austin, Texas, and his daughters, Mrs. Sida Peipers, of St. Louis, and Mrs. Anna Simon, of New Braunfels, Texas, without whose assistance many facts would have escaped my knowledge.

Lindheimer, the Botanist-Editor.

"Unsere Handlungen werden jedoch nicht blos von einfachen Gedanken und Willensbeschlüssen geleitet. Der Zufall, oder vielmehr die Macht der äusseren Ereignisse und gar mannichfaltige Nebengedanken haben ebenfalls einen grossen Einfluss auf unsere Handlungen."—Lindheimer.*

Though the name of Lindheimer is well known in the botanical and German editorial world, his actual personality and the events of his adventurous life are largely a matter of tradition. Special pains have therefore been taken to investigate his career and the influences determining its chief events and to present this modest, studious, Nature-loving editor and philosopher, as he appeared to those around him.

Ferdinand Jacob Lindheimer was born in Frankfort-on-the-Main, May 21, 1801, and died at New Braunfels, Texas, Dec. 2, 1879. His father, Johann Hartmann Lindheimer, was a prosperous merchant of Frankfort, but died when his youngest son, Ferdinand, was yet a child. He was also related to the poet Goethe, whose maternal grandmother was the daughter of Attorney Lindheimer of the Imperial Chamber,† the ancestor of both, while the family itself is said to be derived from that of von Lindheim, one of its members having contracted a morganatic marriage and his descendants adopting the name Lindheimer.

The youth Ferdinand was given the best education obtainable, attending a preparatory school in Berlin and finishing his education at Wiesbaden and Bonn, taking his degree at the latter university in 1827, after which he accepted a position in the Bunsen Institute (Erziehungsanstalt) in his native city and taught there till 1833, when it was closed by the government and both he and George Bunsen were compelled to emigrate, after the failure of the political conspiracy of April 3 of that year, in which they appear to have been implicated.‡

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* Aufsätze und Abhandlungen. p. 136.

† Life of Goethe by A. Bielschowsky, trans. by W. A. Cooper. p. 10. New York. 1905.

‡ This particular school of Bunsen was noted for its political activity, no less than six or its teachers being condemned between 1826 and 1833. Allgemeine Deutsche Biographie. **18**: 697. Leipzig. 1883.

Apparently young Lindheimer soon after closed out his business affairs, and, taking his patrimony, sailed for America early in the spring of 1834. He landed at New York,* took the steamer to Troy, went by way of the Erie Canal to Buffalo, across the lake by steamer and down the Ohio Canal from Cleveland to Portsmouth. From here a river steamer carried him down the Ohio and up the Mississippi to St. Louis, from which he went to the German settlement at Belleville, Illinois, where the Engelmanns, Hilgards, Koerner, and many others of his friends and fellow townsmen had entered farms and established homes. He gives an account of his life there himself,† a fair sample of his general style of composition:

"In a forest in St. Clair County in the State of Illinois, stood an abandoned log-house, which eight young men, mostly newcomers, had chosen for their provisional dwelling. Not far distant from it was the hospitable farm of Forestmaster E., who had arrived a short time before from Rhenish Bavaria with a numerous family. The eight young men shared the living expenses with them. I am convinced that each of the eight will still recall the pleasure of the moment when the tone of the ox-horn sounded through the forest, calling them to dinner with that kind family, which, like most families, consisted not wholly of male companions.

"A great, carefully-planned drive-hunt, in which few wild animals were shot, moderately productive hunting for prairiehens, and from time to time a rousing banquet, to which the neighbors were invited, shortened our time for us in a delightful manner.

"Though this aimless and thoughtless life was for a time pleasant for all of us, yet it was not for the *far niente* and the 'aus der Tasche zehren nicht der Zweck,' for which we had come to America. The forest and the prairie had already put on their pale autumnal mantle and a single 'norther' betokened the coming winter. The roof of our old log-cabin was so open that we could make astronomical observations from our beds, and the great chimney, in the last cold winter,

* Trans. Ill. State Hist. Soc. for 1894. pp. 289–292.

† Aufsätze und Abhandlungen. pp. 78, 79.

was so little able to warm the room that a certain doctor, who daily jotted down his notes, was compelled to use two pens, so that, by warming one after another, the ink would not freeze while writing. Who then can blame that, with such an outlook upon a North American winter, a *horror frigidus* overcame us and an irresistible desire for the South overmastered us?

"Yet once more we held a great 'Commers,' for which at this time (1834), the material had to be hauled from St. Louis, a day's journey away. Out of the unhinged doors of our great log-house a long table was made and in the evening the courtyard was filled with the saddled horses of our guests, so that it appeared as if a squadron of cavalry had entered and was seated around our long table in a joyful banquet.

"A few days later, six of the company, who were the forerunners of a southern emigration, took passage on a steamboat down the Mississippi with the intention of making an expedition on foot through Texas and Mexico."

During October the travelers lingered in New Orleans trying to find some way to get to Texas, which at this time was a terra incognita, the borderland between two hostile civilizations and ravaged alternately by bandits and Indians, and not even a map of the country could be found. Three of their number became discouraged and returned to St. Louis, and so the trip overland with packhorses to the City of Mexico was reluctantly abandoned. While here, one Baron von Seefeld endeavored to enlist them in a filibustering expedition to Mexico in an attempt to restore Bustamente to the Presidency, and another proposed that they accompany a vessel outfitting to search for the hidden treasure of the pirate Lafitte—another name for a marauding voyage against Mexican commerce. Finally they secured passage on a coasting schooner bound for Vera Cruz and soon found themselves in the tierra caliente of the tropics with the snow-clad Orizaba looming in the distance.

They waited here for a few days till a pack-train set out for the interior and accompanied it to the new German settlement at Cordoba. Here Lindheimer and Otto Friederich built themselves a cabin on a spur of Mt. Orizaba and made

collections in Natural History, particularly of insects, which later were sent back to Germany and acquired some note. After a time, however, the brothers, Otto and Eduard Friederich, purchased plantations, while Lindheimer managed a distillery on the sugar-plantation of Sartorius and Lavater, but after about a month a chance fire destroyed the canefields, and the works in consequence had to shut down. Lindheimer then formed a close friendship with a Mr. Gründler, who had a coffee plantation not far distant, and the two lived pleasantly for some time in their bachelor quarters on the estate.

It was about this time that the Texas uprising came and the Mexican papers were filled with bombastic articles against the Americans and the short work Santa Ana, "the Napoleon of the West," would make of them, when once he should get his army there. Lindheimer was already disgusted with the unsettled conditions of Mexico and the consequent insecurity of life and property, and convinced of the inherent incapacity of the Latin races to develop a strong and lasting civilization, while his Teutonic blood drew him to his cousins of the North, so after some sixteen months in Mexico, though several good positions were offered him there, he again set out for Vera Cruz and took the first vessel for New Orleans, after refusing a commission in the artillery in the Mexican Army of Invasion, offered by his friend, Colonel Holzinger.

So crude was the knowledge of the sailing masters of those days that this particular ship was wrecked off Mobile, Alabama, while the captain confidently believed he was beating off Matamoros, and Lindheimer was compelled to swim to land. Arriving at Mobile, he enlisted at once in a company of volunteers forming to aid the Texas revolutionists. This company was composed mostly of Irishmen under command of Captain Robertson, and on its arrival in Texas was stationed on Galveston Island, as a kind of coast defense in case Mexico should undertake to land troops at that point. This company was ordered by General Houston to join him, when he was concentrating his army for the battle of San Jacinto, but the battle was begun earlier than was expected and it did not reach him till the day after the battle, April 22, 1836.

After the army was disbanded, Lindheimer seems* to have come north to St. Louis and spent the summer of 1839 and probably the following winter here, but the climate was too severe for his lungs and again he took up his residence in the new republic of Texas. He located near Houston and engaged in truck-farming (1840-1843), but the land proved poor and the business unprofitable, so, urged by his friend, Dr. George Engelmann of St. Louis, he decided to give up this work and devote himself to that of collecting the largely unknown flora of Texas and depend upon the sale of his specimens for a living.

He had always been fond of botany and devoted much time to his favorite study while in the university with Engelmann and other botanists. He collected largely on his trip to Mexico and continued his botanical work even during the excitement of the Texas revolution, as many specimens in the Engelmann herbarium will attest, so that now, when in doubt as to his vocation in life, he naturally turned to that which he liked best, as long as it should afford him a means of livelihood. Moreover, the region in which he was situated was largely unknown botanically, only a few collectors† having previously visited it and the results of their work not having been published. The scattering collections already sent to Engelmann showed clearly the need of a scientific investigation of the plants of this borderland between the American and Mexican floras, and he urged Dr. Gray, who was then just establishing the Botanical Garden at Cambridge, to join with him and Lindheimer in the exploitation of this unique flora. Accordingly advertisements were inserted in several botanical journals, and in the spring of 1843 Lindheimer began collecting plants in quantity for distribution.

The first year he was not very successful, owing to various misfortunes, and a part of the collection of 1844 was lost in transmission, but the collections of 1843 and 1844, containing 318 numbers, were distributed as planned and their descrip-

* A number of specimens in the Engelmann herbarium are labeled "St. Louis. 1839. Lindheimer," while similarly we find he was at San Felipe, Texas in March and New Orleans in April of that year on his way up.

† Berlandier, Drummond, Riddell and Leavenworth.

tion was issued by Engelmann and Gray as Plantae Lindheimerianae,* Part I, in 1845, while the collections of 1845 to 1848 were in part described in 1850 as Part II of the same. The collaboration of Engelmann and Gray in this publication led to a life-long friendship between them and proved of the greatest advantage to both in the prosecution of their scientific work. Gray with his larger herbarium and library did many of the critical determinations for Engelmann, while the latter kept more in touch with the various exploring expeditions, which made St. Louis their outfitting point, and supplied many of the field botanists to accompany them, and his critical studies in some of the most difficult genera are still regarded as classics in botany. Indeed the influence of Engelmann in the study of the flora of the Middle West is marked and the great work done in America by the German botanists of the last century deserves more than passing notice.

No one can do much in systematic botany in America without soon becoming acquainted with the names of Engelmann, Lindheimer, Geyer, Fendler, Wislizenus, Gattinger, Hilgard, Lüders, Riehl, Rugel, Eggert and a host of others of German origin. Many of these, like Engelmann and Lindheimer, were trained in the German universities and came to America to secure the freedom denied them in their native land. Others, as Maximilian and Roemer, simply made scientific expeditions into unexplored regions of the United States and published the results of their work on their return to Germany, while many others devoted their spare moments to botany through mere love of Nature, without intention of publication or hope of reward, and it was these that turned to Engelmann for encouragement and assistance in their work. Geyer, Fendler and Lindheimer did practically all their work in cooperation with Engelmann, while many other botanists of German descent looked to him for assistance in their botanical

* Plantae Lindheimerianae, Part I, was issued about Sept. 23, 1845 and Part II about May 27, 1850, as shown by Gray's unpublished letters to Engelmann: the names given in part I therefore antedate those of Scheele in vols. 21 and 22 of Linnaea and in Part II all those of Scheele subsequently published.

difficulties, and the accumulated labors of these collectors and students have made known to the world a great part, probably the greater part, of the native flora of the western United States.

The half-century succeeding the Napoleonic wars was a period of great unrest in Germany. Napoleon's policy had tended to break down the smaller German principalities and to arouse a feeling of resistance and unity among the various political groups speaking the German tongue, while the success of the French people in their several popular insurrections inspired their neighbors also with the hope of freedom. This desire for political rights and national unity led to the uprising of 1830 and the revolution of 1848, and finally resulted in giving the Germans a constitution and a united Fatherland. Yet, while this struggle was going on, there was a large and continuous stream of German emigration, greatly increased after each political disturbance. America received the greater part of these exiles, who settled chiefly about Milwaukee, St. Louis and Cincinnati.

This constant absorption by the Anglo-Saxon race of the strongest and most independent of the German blood finally became a source of solicitude to those who had the good of the Fatherland at heart and led in 1844 to the formation of a company of twenty-five German princes and nobles entitled the "Verein zum Schutze deutscher Auswanderer in Texas," usually called the Adelsverein or Mainz Company, which had for its object "To conduct the German emigration, as far as possible, to a single favorable selected point, to assist the emigrant upon his distant journey and in his new home and to work for strength therein, that a new home shall be secured for them beyond the sea;"* the evident intention being to Germanize Texas, then a republic with a small cosmopolitan population, and to keep the emigrants in touch with the Fatherland.

Prince Carl zu Solms-Braunfels, whose speeches and writ-

* Roemer, "Texas." 20–41.—Penniger's "Geschichte des Adelsverein."—Tex. State Hist. Assoc. Quarterly. **3**: 33–40.—Kuno Damian von Schutz, "Texas Rathgeber für Auswanderer nach diesem Lande." Wiesbaden. 1846. pp. 135–232.—Solms-Braunfels, "Texas." Frankfort. 1846.

ings had aroused great enthusiasm for this scheme of colonization, was appointed General Commissioner for the Company and came to Texas in May, 1844, to prepare the way for the expected immigration. He purchased a grant of land in what is now Comal County, and when the first instalment of five ships and 150 families arrived at Galveston in November, 1844, he conducted them to Port Lavaca and then up the Guadalupe to its junction with Comal Creek, where he founded the city of Neu Braunfels, named for his old German home, and erected his "castle" upon an eminence near by, after the old German custom.

Mr. Lindheimer, learning of this effort at German colonization, met the immigrants on their arrival on the coast, was gladly received into the company on account of his local knowledge, and assigned a share in the land-allotment at New Braunfels, where he thereafter made his home. There is a good description of Lindheimer at this time in Roemer's "Texas" (p. 133):

"In the first days of my sojourn in New Braunfels I formed an acquaintance, which was highly prized and very agreeable during the whole time I remained there, and to which I now look back with special pleasure.

"At the end of the village and at some distance from the last houses stood, half-hidden amid a clump of elms and oaks and hard by the brink of Comal Creek, a cabin or small house, which, with its enclosed garden in front, afforded by its appearance and position a true picture of the idyl. As I for the first time approached this simple, rustic habitation, I beheld before the entrance of the cottage a man busily engaged in splitting wood and apparently not unaccustomed to this labor. So far as the thick black beard, which covered his whole face, permitted it to be seen, he appeared to be a man at the beginning of the 40's. He wore a blue blouse open in front, yellow leather breeches and coarse shoes, such as are customary with farmers in this country. Beside him lay two beautiful brown-spotted bird dogs and fastened to one of the neighboring trees was a dark-colored pony.

"According to the description, the man could only be the one for whom I sought and who answered me in the language

of a cultured man, though in a mild, almost shy-sounding voice, which ill accorded with his rough exterior, and whose answer to my direct question, confirmed my supposition. It was the botanist, Mr. Ferdinand Lindheimer from Frankfort-on-the-Main. Residing in Texas for a considerable time he had by several years' zealous plant-collecting acquired a permanent scientific reputation, as regards the botanical knowledge of Texas, which had before been almost totally unknown and had been visited transiently but once before by an English botanist named Drummond.

"After Lindheimer had received at the German schools and universities the best available scientific education and special training in the ancient classics, he taught for a time in one of the higher educational institutions, but his dissatisfaction with the political condition of his native land for more than a decade and perhaps also his thirst for adventure drove him beyond the sea. He went first with several congenial companions to Mexico and lived there for some time in the neighborhood of the charmingly situated Jalapa upon the produce of a pine-apple and banana plantation, and went later to Texas, in order to take part as a volunteer in the latter part of the Texas war for independence against Mexico.

"After the close of this war he endeavored to live for some time as a farmer and to improve a farm, but this manner of life also did not appeal to him, and he decided, particularly at the urging of a friend in St. Louis, to gratify his inclination from earliest youth, a cherished delight for botany, and at the same time make it a means of livelihood. He bought a two-wheeled covered cart with a horse, loaded it with a pack of pressing-paper and a supply of the most indispensable provisions, namely, flour, coffee and salt, and then set forth into the wilderness, armed with his rifle and with no other companion than his two hunting dogs, while he occupied himself with collecting and pressing plants and depended for his subsistence mainly upon the results of the chase, often passing whole months at a time without seeing a human being.

"When, then, in the late fall of 1844, the first large train of German immigrants under the leadership of Prince Solms arrived in Texas, Lindheimer joined them and was joyfully

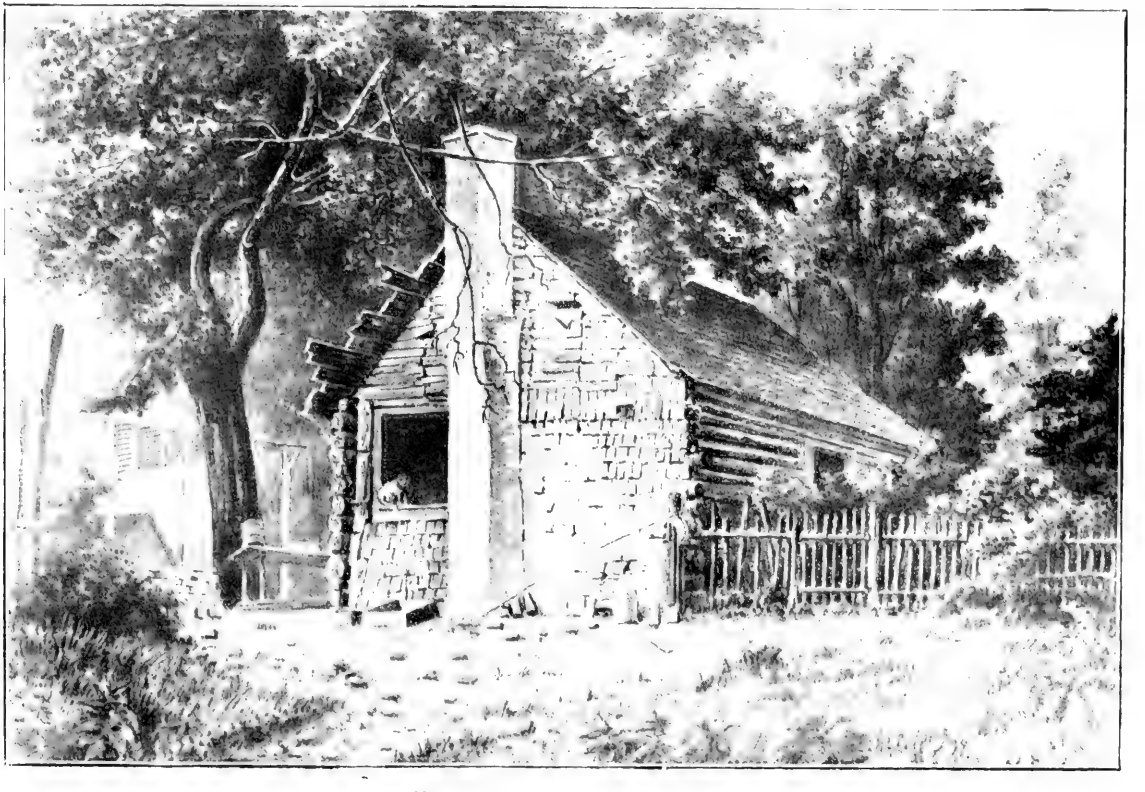
received by the new comers, as a man with knowledge and experience of the country. He went with them to Comal Creek and when the city of Neu Braunfels was founded here in the spring of the following year, renouncing all other claims to land, he asked of Prince Solms for himself a spot of ground, small and worthless, but charmingly situated upon the steep bank of the incomparably beautiful Comal Creek, and here he built a little cabin and began now, with more leisure and convenience than he had ever before enjoyed in Texas, to explore systematically the rich and, for the most part, still unknown flora of the country around him.

"He was soon convinced, however, that he could not collect plants effectively and at the same time conduct his domestic affairs properly, however simple they might be. If, for example, he returned home of an evening all tired out with plant-collecting, he still found it necessary to prepare his own supper; if he tore his clothing among the thick bushes of the river forest, he himself must take up his needle and thread and repair the damage; if he needed a clean shirt, he had to go down to the river and wash it. He chose the right means to thoroughly remove all these inconveniences of his lonely bachelorhood. He sought for himself a consort and found her in a daughter of one of the recently arrived immigrants. The cabin on the Comal* has proven sufficiently large for two and everything goes on therein according to wish, though in primitive simplicity."

This account by Roemer, though inaccurate in some particulars, represents fairly well the difficulties under which Lindheimer labored at this time in the midst of his botanical work. He was married to Eleonore Reinarz of Aachen at San Antonio in 1846, and two sons and two daughters resulted from this union, all of whom are still alive.

Lindheimer and Roemer made many botanical excursions together during 1846 and the value of the latter's collections

* Though a new and more commodious home was later erected beside the "cabin on the Comal" to meet the exigencies of an increasing family, this little log hut of pioneer days long remained as the oldest building in New Braunfels. The accompanying picture is from an aquarelle by Mr. Henry E. Peipers, a son-in-law of Lindheimer; copied by permission.



THE CABIN ON THE COMAL.

is largely due to Lindheimer's aid in the work. At the end of the season they appear to have exchanged a set of the collections made by each during the year, and Roemer, on his return to Germany, placed Lindheimer's with his own botanical specimens in the hands of Adolph Scheele, Pastor at Heersum near Hildesheim, who prepared a list of the species for Roemer's "Texas," and published the descriptions in Linnaea from 1848 to 1852 in his "Beiträge zur Flor von Texas." Not only did he publish the "new species" of Roemer's collecting, but also those found among Lindheimer's duplicates,* though he knew that Engelmann and Gray had already undertaken to describe these collections in their Plantae Lindheimerianae, and so industriously did he continue his work that he soon completely outdistanced his American competitors and left little for them to describe. This may have had something to do with the discontinuance of the Plantae Lindheimerianae, but not the slightest blame can be attached to Lindheimer, for he doubtless had no idea that any publication on his own collection was intended at the time the exchange was made. Nor was this the chief cause of the discontinuance of Engelmann and Gray's publication, for not only was this left unfinished at the end of the Compositae, but also all other lists then in course of publication by Gray, as the Plantae Wrightianae, Plantae Fendlerianae and Plantae Novae Thurberianae,—all crowded out by the pressure of more urgent work and publication, and never completed.

In 1846 the tide of German immigration turned northwestward to the Piedernales (or Padernales) River, where Friederichsburg was founded in what is now Gillespie County, and Lindheimer accompanied a train of settlers to this point early in 1847 and collected in this vicinity till September, when he pushed still farther north into the Indian country along with the Darmstaedter Kolonie,† the so-called "communistic colony of Bettina," which occupied lands between the Llano

* Of the species from Texas described as new by Scheele, 73 were collected by Lindheimer and 66 by Roemer.

† Tex. State Hist. Assoc. Quarterly. **3** : 33–40.

and San Saba Rivers, recently purchased of the Indians. This particular colony was composed of members of a higher class of intelligence and education than the average and afforded congenial companionship for the naturalist Lindheimer. He collected in this region till the fall of 1848, when the inroads of the Indians and the dissensions of the colonists caused the disruption of the society, and he returned to Comanche Spring, near San Antonio, where his friend, von Meusebach, had located a farm, and here he pursued his botanical work during the season of 1849.

Lindheimer himself was perfectly fearless of danger in his wide botanical excursions and his immunity from the Indians is largely due to that fact, though he appears to have been held by them in extreme reverence as a "medicine man," who wandered aimlessly about securing herbs for his decoctions and incantations, and many are the stories told of his adventures with them during these troublous times.* He returned to New Braunfels in the fall of 1849 and his work during the next two years was almost wholly in that vicinity. The collections of these last three years (1849-1851), which have never been distributed or described, are the subject of this paper. After this time Lindheimer never collected plants in quantity and only indulged in his love for botany as a recreation and to build up his own herbarium.

The German colonization society of Mainz practically ceased operations upon the admission of Texas as one of the states of the Union, and the attempt to found a semi-feudal principality in America failed, as all other such attempts had failed before, but it resulted in giving to Texas a large and industrious German population, which continued to spread and prosper till the need of a newspaper in their own mother-tongue became a necessity and the inhabitants of New Braunfels proposed a subscription to defray the expenses of securing a press and printing materials to establish one. Early in 1852 a mass-meeting of the citizens was held to elect the editor and publisher of the new German organ, and three candidates

* See "Ein Verbrechen der texanischen Regierung, mit einem Anhang über die heistigen Indianer" in Lindheimer's "Aufsätze und Abhandlungen." pp. 63–78.

were proposed. Mr. Lindheimer was elected unanimously to this position and assumed with it the obligation of "standing security for the total cost, outlay, etc." of the paper. About two-thirds of the amount required was subscribed and he contributed the balance, so that the first number of the Neu Braunfelser Zeitung appeared in November of that year —the first German paper in Texas worthy of the name. After the beginning of the publication of the Zeitung, many of those who had contributed to its purchase desired that Mr. Lindheimer return the amount of their subscriptions in printing, advertisements and subscription to the paper or in cash, which was done, and the paper became his personal property. For twenty years he was editor and publisher of this paper, and only the infirmities of age compelled him to lay aside his duties. The Neu Braunfelser Zeitung was nominally Democratic, but was really intended and actually conducted impartially in the interests of the whole people and the editor was ever fearless in guarding them against private interest and political graft, always, however, leaving his columns open for the expression of the views of his opponents. With his customary modesty he never republished any of the praise received from out-of-town newspapers and was able to say on his retirement that he had never spoken against his convictions in his editorial management. His work as editor "yielded him but little pleasure and many annoyances, but, as in other things, here too the work itself was pleasure enough for him. The contents of the paper were frequently above the heads of the majority of his readers, but he did not write to suit the masses, but to uplift them, and thus the first 18 volumes of the Neu Braunfelser Zeitung offer, even at the present day, a rich treasure of instructive reading to the educated man."

In addition to his work as editor, during his later life Mr. Lindheimer assumed many public duties. He conducted a private free school for advanced pupils. He served as Superintendent of Public Instruction in his county for several terms and was the first Justice of the Peace of New Braunfels, till increasing age forced him to rest from his labors.

His botanical work can be best appreciated by remember-

ing the difficulties and dangers, the poverty and hardships under which his collections were made. He discovered and made known to the scientific world an enormous number of new species of plants from central Texas and many of these will ever bear his name. The beautiful *Lindheimera texana* is already not infrequent in ornamental cultivation and links his name with the country of his adoption, while many plants grown from seeds of his collection are found in the Missouri Botanical Garden at St. Louis, in the Botanical Garden at Cambridge, Mass., and elsewhere. His private herbarium at his death came into the hands of Prof. Emil Dapprich of Milwaukee, Wisconsin, and was on exhibition at the World's Fair at Paris. On Dapprich's death in 1903 it came into the possession of the German-English Academy of Milwaukee, where I understand it still remains.

Mr. Lindheimer was a careful observer and a patient collector, and the notes accompanying his collections add greatly to their value. The specimens of his last collection (1849-1851) will go to many herbaria in America and abroad and well exhibit the care and faithfulness of his work. It is to be regretted that time dealt not more leniently with them. A number of his new species he himself described and named, but many of the names he suggested were found preoccupied and others given.

Unfortunately many of Mr. Lindheimer's most valuable papers were published only in the Neu Braunfelser Zeitung and the New York Staats-Zeitung, and are all inaccessible to readers except in the German tongue. A number of his principal scientific, philosophical and historical essays collected from these papers have been republished in Germany under the title: "Aufsätze und Abhandlungen von Ferdinand Lindheimer in Texas,"* but the greater part are unknown and inaccessible to the general reader. In the "Aufsätze," his simple, direct, philosophical style is always interesting

* A volume of 176 pages published anonymously by one of his former pupils, Dr. Gustav Passavant, at Frankfort a. M. in 1879, the year of Mr. Lindheimer's death. See the "Allgemeine Deutsche Biographie." **18**: 697. Leipzig. 1883.

and his meaning clear, quite different from the usual complicated, involved German sentence.

Mr. Lindheimer was a man of medium height, with blue eyes and black hair and beard, which in age became snowy white. He possessed a strong, active body, which he had developed in youth in the "Turnverein," and retained much of his bodily vigor in his old age. He was quiet and deliberate in manner, temperate and regular in his habits and a good conversationalist, though loath to boast about himself or much discuss his past history. He never became excited or used strong language. A "freethinker" in his opinions, yet he counted many priests and pastors among his best friends and never antagonized religious institutions. He did not believe in slavery, but espoused warmly the Southern cause at the outbreak of the Civil War.

There is much in this quiet, modest, unassuming man and his unselfish devotion to duty, that resembles his compatriot, General Houston. But, while the talents of the latter led him to war and political strife, Lindheimer turned to books and the beauties of Nature. Both were friends of the Indian, and indifferent to the accumulation of property, while they never allowed their own interests to come in conflict with the public weal. He ever loved freedom and independence, the simple life and intellectual enjoyment, and the reward for his labors was the esteem of his fellow-men. May Germany give us many such of Nature's noblemen!

NUMBERS OF FASCICLES III AND IV NOT PREVIOUSLY ENUMERATED.

As the "Plantae Lindheimerianae" was left unfinished at the end of the Compositae (Bentham and Hooker sequence) for the last two fascicles, it results that the numbers 449-574 and 652-754, which were distributed without names, localities and dates, yet remain in herbaria without such data, so that, as these fascicles contain many type collections, particularly of Scheele, I will endeavor to supply this information as far as the specimens can be found in the Engelmann herbarium at the Missouri Botanical Garden, and thus round out the work of the previous publication. In many cases the same number was issued in both fascicles III and IV, the latter, for 1847-8, have the (IV) affixed in the following enumeration. A few numbers enclosed in brackets are taken from Gray's list, but are not found in the Engelmann herbarium.

FASCICLE III. 1845-6.

449. LOBELIA SPLENDENS Willd. L. 342. New Braunfels. Aug. 1846.—Aug. Sept. 1845.—Piedernales. 1847. (IV).

450. SPECULARIA COLORADOENSIS (Buckley) Small. L. 65. New Braunfels. May 1846.—Apr. 1848 (IV). Type collection of *S. Lindheimeri* Vatké; Linn. **38**: 713. *Campanula coloradoense* Buckl. Proc. Acad. Phil. 1861: 460.

451. DIOSPYROS TEXANA Scheele. L. 126. New Braunfels. April 1846.

The type collection; Linn. **22**: 145.

452. DIOSPYROS TEXANA Scheele. (New Braunfels. May 1846).

453. DIOSPYROS TEXANA Scheele. L. 270. Colorado River 1845.—L. 126. (New Braunfels). June 1846.

454. MENODORA HETEROPHYLLA Moricand. L. 383b. Guadalupe River. Feb. 1845.—L. 218. 15 mi. W. of New Braunfels. Oct. 1846.—"On the Cibolo on

arid soil." July 1847 (IV).—Llano. Oct. 1847 (IV).

L. 218 is the type collection of *Bolivaria Grisebachii* Scheele. Linn. **25** : 254.

455. MENODORA HETEROPHYLLA Moricand. L. 383a. Agua Dulce, Matagorda Bay. Feb. 1845.

456. ASCLEPIAS LINEARIS Scheele. L. 348. New Braunfels. Aug. 1846. The type collection; Linn. **21** : 758.

457. ACERATES VIRIDIFLORA Eaton. ?L. 343. New Braunfels. July-Sept. 1846.

458. ASCLEPIODORA VIRIDIS Gray. L. 272. Guadalupe River. July 1845.—L. 345. New Braunfels. Sept. 1846.

This latter the type collection of *Asclepias longipetala* Scheele. Linn. **21** : 757.

459. METASTELMA BARBIGERUM Scheele. New Braunfels. June-Aug. 1846. Rocky soil in cedar forest.

Type collection; Linn. **21** : 760.

460. ROULINIA UNIFARIA Engelm. L. 352. New Braunfels. Aug. 1846. Type collection of *Gonolobus unifarius* Scheele. Linn. **21** : 760.

461. GONOLOBUS RETICULATUS Engelm. L. 474. Comanche Spring. 1845.—L. 350. Upper Guadalupe. Sept. 1846. See Torrey, Mex. Bound. Surv. **2** : 165; Proc. Amer. Acad. **12** : 75.

GONOLOBUS BIFLORUS Nutt. L. 162. New Braunfels. April 1846. Mex. Bound. Surv. **2** : 165.

462. [ERYTHRAEA TEXENSIS Griseb. New Braunfels. April 1848 (IV)].

463. E. TEXENSIS Griseb. L. 180. New Braunfels. June 1846.—L. 340. New Braunfels. July 1846.

464. E. BEYRICHII T. & G. L. 308. Upper Guadalupe. June 1845.—Sabinas River. July 1847 (IV).

465. GILIA RIGIDULA Benth. L. 144. New Braunfels. April 1846.—L. 279. Victoria. March 1845. *G. glandulosa* Scheele. Linn. **21** : 754.

466. G. INCISA Benth. L. 214. Upper Guadalupe. June, July 1846.

Type collection of *G. Lindheimeriana* Scheele. Linn. **21** : 753.

467. PHLOX ROEMERIANA Scheele. L. 428. Comale Spring. June 1845.—L. 429. San Antonio. April 1845.—New Braunfels. April 1848 (IV).

469. CONVOLVULUS SAGITTIFOLIUS Scheele. L. 170. New Braunfels. June 1846.—L. 319. New Braunfels. Aug. 1846.—L. 274. Comale Creek. May, June 1845.—New Braunfels. May 1848 (IV).

L. 319 appears to be the type collection, though Scheele (Linn. **21**: 747) gives July as the date of collection; the other label data are identical.

470. CONVOLVULUS INCANUS Vahl. L. 104. (New Braunfels). April, May 1846.—New Braunfels. May 1848 (IV). *C. sinuatus* Scheele. Linn. **21**: 748.

471. BOUCHETIA ANOMALA Britt. & Rusby. L. 796. Comale Spring. Aug. 1845.—L. 276. San Antonio. April 1845.

472. CUSCUTA EXALTATA Engelm. New Braunfels. 1846.

Type collection; Trans. Acad. Sci. St. Louis. **1**: 513.

473. C. VERRUCOSA Engelm. L. 152b. New Braunfels. May 1846.—L. 277. Upper Guadalupe. June 1845.

Engelmann says: "*C. verrucosa* in its transition to *C. pentagona*. Margins of woods on rocky soil, mixed with the usual form of *C. verrucosa*." See Trans. Acad. St. Louis. **1**: 495. *C. arvensis verrucosa* Engelm.

474. CUSCUTA HISPIDULA Engelm. San Antonio. April 1845.—New Braunfels. April 1846.

475. CUSCUTA PULCHERRIMA Scheele. L. 317. New Braunfels. Oct. 1846. Type collection; Linn. **21**: 750. *C. decora pulcherrima* Engelm.

476. NAMA JAMAICENSE L. L. 219. New Braunfels. Aug. 1846.

477. ECHINOSPERMUM TEXANUM Scheele. L. 70. San Antonio. April. 1846.

Possibly the type collection, though Scheele credits it to Roemer. *E. Redowskii cupulatum* Gray.

478. PHACELIA CONGESTA Hook. L. 423. Upper Guadalupe. May 1845.—L. 71. (New Braunfels). April 1846.

479. P. PATULIFLORA Engelm. & Gray. L. 295. Guadalupe near Victoria. Mar. 1845.—L. 294. Guadalupe. Feb. 1845. (280),

480. SOLANUM ROSTRATUM Dunal. L. 147 (450). (New Braunfels). May 1846.—L. 804 (494). Upper Guadalupe. Sept., Oct. 1845.

481. S. TRIQUETRUM Cav. var. LINDHEIMERIANUM Gray. L. 322. Victoria. Jan. 1845.—L. 312. New Braunfels. Aug. 1846.—Llano. Oct. 1847 (IV).—Victoria. July 1848 (IV). New Braunfels. April 1848.

L. 312 above is the type collection of *S. Lindheimerianum* Scheele. Linn. **21**: 766. It is doubtful if *S. triquetrum* and *S. Lindheimerianum* are more than large and small leaved forms of the same species and only study in their native habitat can determine this question with certainty.

482. CAPSICUM BACCATUM L. L. 320. Colorado bottom near Columbus. Jan. 1845.—L. 495. (New Braunfels). Aug. 1845.

483. NICOTIANA REPANDA Willd. L. 320. Guadalupe River bottom. Feb. 1845.—L. 72. Victoria near New Braunfels. Mar.-May 1846.

484. CHAMAESARACHA CORONOPUS Gray. L. 174. Guadalupe River. June 1846.

484b. C. CONIOIDES Britton. L. 74. San Antonio. April 1846.—L. 315. (New Braunfels). Aug. 1846.—New Braunfels. May 1848 (IV).

These two species appear to intergrade in Texas.

485. BUDDLEIA RACEMOSA Torr. June 1847-8 (IV).

The specimen of III not found. This is a co-type, according to the label; Mex. Bound. Surv. **2**: 121.

486. HERPESTIS CHAMAEDRYOIDES HBK. L. 322. (New Braunfels). Aug. 1846.—L. 381. Guadalupe River. Feb. 1845.

487. ANTIRRHINUM ANTIRRHINIFLORUM Small. 1847.

488. CASTILLEIA PURPUREA Don. L. 726 (329). San Antonio. April 1845.—L. 75. (New Braunfels). April 1846.

490. [STACHYS UMBROSA Scheele].

492. SCUTELLARIA VERSICOLOR Nutt. var. BRACTEATA Benth. L. 146. New Braunfels. May 1846.—New Braunfels. May 1848 (IV).

493. SALVIA TEXANA Torr. L. 81. New Braunfels. May 1846.

Type collection of *Salviastrum texanum* Scheele. Linn. **22**: 585. —Mex. Bound Surv. **2**: 132.

494. S. TEXANA Torr. L. 80. New Braunfels. May 1846.

495. HEDEOMA REVERCHONI Gray. L. 84. Guadalupe River. May 1846.

496. H. ACINOIDES Scheele. L. 374. Upper Guadalupe. May 1845.—L. 87? Upper Guadalupe. April 1846.

497. MONARDA CITRIODORA Cerv. L. 371. Comale Spring. June 1845.—L. 97. (New Braunfels). May 1846. *M. tenuiaristata* Small.

498. SALVIA FARINACEA Benth. L. 369. San Antonio. April 1845.

499. S. ROEMERIANA Scheele. L. 370. Comale Creek. April 1845.—L. 145. (New Braunfels). April 1846. —New Braunfels. April 1848 (IV).

500. VERBENA CANESCENS HBK. L. 77. (New Braunfels). April 1846.

See Torr. Mex. Bound. Surv. **2**:128. *V. Roemeriana* Scheele. Linn. **21**: 755.

501. V. CILIATA Benth. L. 324. San Antonio. April 1845. —L. 325. Comale Spring. May 1845.—San Antonio. April 1848 (IV).—New Braunfels. May 1848 (IV).

502. LIPPIA LIGUSTRINA Britton. L. 404. San Antonio. Aug. 1845.—L. 121. San Antonio. April 1846.—Llano River. Oct. 1847 (IV).

503. LANTANA HORRIDA HBK. L. 384. Upper Guadalupe. June 1845.—L. 306. New Braunfels. Aug. 1846.

504. CALOPHANES LINEARIS Gray. L. 158. Brazos River. June 1844.—L. 111. New Braunfels. May 1846.—L. 325. New Braunfels. Aug. 1846.

505. SIPHONOGLOSSA PILOSELLA Torr. Shady woods, New Braunfels. 1846.

506. RUELLIA DRUMMONDIANA Gray. L. 323. New Braunfels. Aug. 1846.—L. 268. On the Comale. June 1845.

L. 323 is the type collection of *Dipteracanthus Lindheimerianus* Scheele. Linn. **21** : 764.

507. MIRABILIS JALAPA L. L. 515. Upper Guadalupe. Aug. 1845.—L. 470. Comale Cr. Sept., Oct. 1845. —L. 158. New Braunfels. June 1846.

508. NYCTAGINEA CAPITATA Chois. L. 178. San Antonio. May 1846.—L. 268. San Antonio. Oct. 1846.—L. 470. New Braunfels. Oct. 1847 (IV).

509. BOERHAVIA HIRSUTA L. L. 469. Chocolate Bayou and Mill Cr. Aug., Sept. 1845.

510. B. LINEARIFOLIA Gray. L. 140. Upper Guadalupe. May, June 1846.

Apparently a co-type; Am. Jour. Sci. II. **15** : 322.

511. PLANTAGO WRIGHTIANA Decne. L. 422. Upper Guadalupe. April 1845.—May 1848 (IV).

512. ALTERNANTHERA REPENS Kuntze. L. 284. San Antonio. Aug. 1846.

Type collection of *A. villiflora* Scheele. Linn. **22**: 149.

513. AMARANTHUS ALBUS L. L. 147. Houston. May 1842.—L. 286a. New Braunfels. Aug. 1846.

514. IRESINE PANICULATA Kuntze. L. 520. Comale Cr. Nov. 1840.—Sept. 1845.

515. CHENOPODIUM HYBRIDUM L. L. 280. New Braunfels. Aug. 1846.

516. ERIOGONUM ANNUUM Nutt. L. 279. Guadalupe River. Aug. 1846.—New Braunfels. July 1847 (IV).

L. 279 is the type collection of *E. Lindheimerianum* Scheele. Linn. **22**: 149.

517. LINDERA BENZOIN Blume. L. 147. Comale Spring. March 1846.

518. ARGITHAMNIA MERCURIALINA Muell. L. 106. (New Braunfels). April & May 1846. Mueller. DC. Prod. **15**^{2} : 740.

519. STILLINGIA ANGUSTIFOLIA Engelm. L. 141. Upper

Guadalupe. June 1846.—L. 315. Upper Guadalupe. April 1845.

S. sylvatica linearifolia Muell. DC. Prod. **15²**: 1158.

520. ACALYPHA LINDHEIMERI Muell. L. 475. Llano River. Sept. 1847 (IV).

Type collection; Linn. **34**: 47.

521. TRAGIA STYLARIS Muell. var. ANGUSTIFOLIA Muell. L. 298. New Braunfels. July 1846.

Type collection; Linn. **34**: 180. Also the type collection of *T. scutellariaefolia* Scheele. Linn. **25**: 587, which Mueller refers to *T. nepetaefolia scutellariaefolia* Muell. DC. Prod. **15²**: 934, not knowing the two to be identical.

522. T. NEPETAEFOLIA Cav. var. TEUCRIIFOLIA Muell. L. 299. New Braunfels. July-Sept. 1846.

Type collection; DC. Prod. **15²**: 934. Also of *T. teucriifolia* Scheele. Linn. **25**: 586.

523. BERNARDIA MYRICAEFOLIA Wats. New Braunfels. May, June 1846. *Ricinella myricaefolia* Muell. DC. Prod. **15²**: 729.

524. B. MYRICAEFOLIA Wats. L. 223. New Braunfels. May, Sept. 1846.—L. 400. Upper Guadalupe. May 1845.

L. 223 is the type collection of *Tyria myricaefolia* Scheele. Linn. **25**: 581.

525. CROTON FRUTICULOSUS Engelm. L. 297b. New Braunfels. Aug. 1846. Mex. Bound. Surv. **2**: 194. *C. fruticulosus pallescens* Muell. DC. Prod. **15²**: 633.

526. C. LINDHEIMERIANUS Scheele. L. 304. New Braunfels. July 1846.—New Braunfels. May 1848 (IV).

L. 304 is the type collection; Linn. **25**: 580.

527. C. MONANTHOGYNUS Michx. L. 303. New Braunfels. July 1846.

528. EUPHORBIA ROEMERIANA Scheele. L. 89. (New Braunfels). April 1846.

Type locality; Linn. **22**: 151. Boiss. DC. Prod. **15²**: 143.

529. E. LONGICRURIS Scheele. L. 90a. New Braunfels. April.

1846.—L. 90b. Cibolo River. March 1846.—L. 313. Upper Guadalupe. April 1845.

L. 90a is the type locality; Linn. **22**: 152.

530. E. VILLIFERA Scheele. L. 487. Aug. 1845.—L. 293. New Braunfels. Aug., Sept. 1846.

The latter is the type collection; Linn. **22**: 153.

531. E. FENDLERI T. & G. L. 164. New Braunfels. June 1846.—L. 290. New Braunfels. July 1846.

The latter the type collection of *E. rupicola* Scheele. Linn. **22**: 153.

532. E. SERPENS HBK. L. 291a & 292. New Braunfels. Aug., Sept. 1846.

"*E. herniarioides* approaching var. *imbricata*." Engelm., note in herb. Type collection of *E. flexicaulis* Scheele. Linn. **22**: 153.

533. E. PROSTRATA Ait. L. 165. New Braunfels. June 1846.

534. ANDRACHNE PHYLLANTHOIDES Coult. New Braunfels and San Antonio. April 1846.

536. GARRYA LINDHEIMERI Torr. L. 122. Upper Guadalupe. March & May 1846.—L. 216. New Braunfels. Aug. 1846.

Apparently a co-type collection; Pac. Ry. Surv. **4**: 136.

537. FORESTIERA PUBESCENS Nutt. L. 221, 222. New Braunfels. Feb. 1846.—New Braunfels. Feb. 1847 (IV).

538. F. ANGUSTIFOLIA Torr. L. 399. Matagorda Bay. Feb. 1845.

Co-type collection; Mex. Bound. Surv. **2**: 168.—Proc. Am. Acad. **4**: 365.

539. TILLANDSIA RECURVATA L. L. 617. Colorado River. Aug. 1845.

540. ALLIUM MUTABILE Michx. L. 114. New Braunfels. April 1846.

541. CAMASSIA FRASERI Torr. L. 116. New Braunfels. April 1846.

Type collection of *Ornithogalum texanum* Scheele. Linn. **25**: 146.

This and var. *angusta* Torr. apparently mixed in this collection.

542. Cooperia pedunculata Herb. Comale Cr.? 1845.—1848.

543. Schoenocaulon Drummondii Gray. L. 115. Prairies near New Braunfels. April 1846.

Type collection of *S. texanum* Scheele. Linn. **25**: 262.

544. Androstephium coeruleum Greene. L. 117. Upper Guadalupe. March 1846. Type collection of *Milla coerulea* Scheele. Linn. **25** : 260. *Androstephium violaceum* Torr.

547. Potamogeton lonchites Tuckerm. Caritas. Jan. 1845. (311).

548. Dasylirion texanum Scheele. L. 419. Upper Guadalupe. June 1845.

549. D. texanum Scheele. L. 212. New Braunfels. June 1846.

550. Nolina texana Wats. L. 93. Upper Cibolo. March 1846.

Type collection; Proc. Amer. Acad. **14** : 248.

551. N. Lindheimeriana Wats. L. 297. Upper Guadalupe. April, May 1846.—New Braunfels. June, July 1846. *Dasylirion Lindheimerianum* Scheele. Linn. **25** : 262; latter the type collection.

552. N. Lindheimeriana Wats. L. 197 (672). Between Guadalupe and San Antonio Rivers. June 1845.

553. Cyperus speciosus Vahl. L. 183a? New Braunfels. May 1846.

554. [C. tetrastachya Scheele. Linn. **22** : 347.]

555. [C. microdonta Torr. & Hook. *C. Roemeriana* Scheele. Linn. **22** : 346.]

556. [Carex scaberrima Scheele. Linn. **22** : 345.]

557. Fuirena simplex Vahl. L. 185. New Braunfels. May 1846.—L. 184. New Braunfels. May 1846. —L. 186. Guadalupe River. May 1846.

558. Agrostis verticillata Vill. L. 128. New Braunfels. May 1846.

559. Sporobolus depauperatus Scribn. L. 452? Llano and Piedernales. Nov. 1847.

560. EATONIA OBTUSATA Gray. L. 127. Upper Guadalupe. May 1846.

561. [STIPA CILIATA Scheele.]

562. ARISTIDA AEQUIRAMEA Scheele. L. 398? San Antonio. April 1845.—L. 138? New Braunfels. Sept. 1846. The latter the type collection; Linn. **22**: 343. *A. purpurea californica* Vasey. *A. purpurea aequiramea* Murrill.

563. A. PURPUREA Nutt. L. 397. San Antonio. April 1845. *A. Roemeriana* Scheele. Linn. **22**: 343.

564. CHAETOCHLOA POLYSTACHYA Scribn. & Mer. L. 357. New Braunfels. Oct. 1846

Type collection of *Setaria polystachya* Scheele. Linn. **22**: 339.

565. PANICUM LINDHEIMERI Nash. L. 139? New Braunfels. May 1846. "Springy banks of the Guadalupe."

Type collection; Bull. Torr. Bot. Club. **24**: 196.

566. ERIOCHLOA SERICEA Munro. L. 354. New Braunfels. June 1846. "In wet places."

Type collection of *Paspalum sericeum* Scheele. Linn. **22**: 341.

567. PASPALUM PLICATUM Michx. L. 137. New Braunfels. April 1846. "Springy banks of the Guadalupe."

568. BOUTELOUA CURTIPENDULA Torr. L. 358. New Braunfels. Aug. 1846.

569. BUCHLOE DACTYLOIDES Engelm. L. 136. New Braunfels. April 1846.

570. FESTUCA OCTOFLORA Walt. L. 129. New Braunfels. April 1846.—L. 130. New Braunfels. April 1846.

571. ELYMUS CANADENSIS L. form. L. 184. Mill Creek. May 1844.

572. ANEIMIA MEXICANA Kl. New Braunfels. July 1847 (IV).

573. MARSILIA MACROPODA Engelm. L. 394. Swamps of the Guadalupe bottoms near Victoria. June 1845.

Type collection; Am. Jour. Sci. II. **3**: 56. n.

FASCICLE IV. 1847–1848.

652. MENODORA LONGIFLORA Gray. L. 426. Upper Guadalupe. June, July 1847. "Very sweet-scented, like Mayflowers." Type collection; Amer. Jour. Sci. II. **14**: 45. "High plateaus on the Upper Guadalupe, sparse on sterile, gravelly soil; many stems from a ligneous root: flower opening in the evening, closing toward noon; sweet-scented."

653. FRAXINUS BERLANDIERIANA DC. New Braunfels. July, Aug. 1847.—May 1848. "Bottom woods on the Guadalupe below New Braunfels."

653b. ASCLEPIODORA DECUMBENS Gray. Piedernales. 1847. —New Braunfels. May 1848.—New Braunfels. 1846.

654. MENODORA HETEROPHYLLA Moric. L. 383b. Guadalupe River. Feb. 1845.—Llano River. Oct. 1847.

655. ASCLEPIAS TEXANA Heller. L. 492. Upper Guadalupe. June 1847.

656. A. INCARNATA L. var. LONGIFOLIA Gray. L. 493. Piedernales near Friederichsburg. Sept. 1847.

657. A. VERTICILLATA L. L. 497. Piedernales at Friederichsburg. June 1847.

658. APOCYNUM CANNABINUM L. L. 399. Friederichsburg. June 1847.

659. A. CANNABINUM L. L. 398. Piedernales. June 1847.

660. AMSONIA CILIATA Walt. var. TEXANA Coult. L. 381. Piedernales River. April 1847.

661. IPOMOEA LEPTOPHYLLA Torr. Piedernales. June–Sept. 1847.—July 1848. "On bushes 2–3 feet high; open prairies."

662. EVOLVULUS ARGENTEUS Pursh. L. 411. New Braunfels. June 1847.—New Braunfels. April 1848.

Pubescence thinner and lighter colored than in the typical form, possibly approaching *E. mollis* Small.

663. DICHONDRA REPENS Forst. New Braunfels. Feb., May 1848.

665. EHRETIA ELLIPTICA DC. Guadalupe River. March 1848.

666. NEMOPHILA PHACELIOIDES Nutt. New Braunfels. April 1848.

667. SOLANUM ELAEAGNIFOLIUM Cav. L. 474. Llano River. Oct. 1847.

668. CHAMAESARACHA CORONOPUS Gray. L. VI. Llano River. Aug. 1848.

669. CASTILLEIA PURPUREA Don. L. 385. April 1847.

670. SEYMERIA BIPINNATISECTA Seem. var. TEXANA Gray. L. 468. Friederichsburg. Sept. 1847.—Piedernales and Llano. July 1848.

671. MIMULUS GLABRATUS HBK. Guadalupe River near New Braunfels. May 1848.

672. SALVIA FARINACEA Benth. New Braunfels. April, May 1848.

673. S. PENTSTEMONOIDES Kunth. L. 460. Upper Piedernales. Oct. 1845.

674. SCUTELLARIA WRIGHTII Gray. L. 382. Friederichsburg. Apr., May 1847.

675. TEUCRIUM LACINIATUM Torr. L. 383. Comanche Spring. April 1847.

676. LIPPIA NODIFLORA Michx. L. 502. Sabine River. Aug. 1847.

677. CALOPHANES LINEARIS Gray. New Braunfels. May 1848.

679. ACLEISANTHES LONGIFLORA Gray. L. 471. Llano River. Oct. 1847.

Co-type collection; Am. Jour. Sci. II. **15**: 316.

680. NYCTAGINEA CAPITATA Chois. L. VIII. Llano River. July 1848.

681. ALLIONIA NYCTAGINEA Michx. var. LATIFOLIA Gray. New Braunfels. May 1848.

Co-type collection; Mex. Bound. Surv. **2**: 174.

682. GOSSYPIANTHUS RIGIDIFLORUS Hook. L. 472. Llano River. Oct. 1847.

683. ERIOGONUM TENELLUM Nutt. var. RAMOSISSIMUM

Benth. L. 476. N. of Friederichsburg. Sept. 1847. "Granitic mountains."

Co-type collection; DC. Prod. **14**: 20.

684. E. LONGIFOLIUM Nutt. New Braunfels. June 1847. "On rocky mountains on the plateaus."

685. POLYGONUM SCANDENS L. L. 480. Llano River. Oct. 1847.

686. ARGITHAMNIA APHOROIDES Muell. L. 386. Upper Guadalupe. April 1847.

Type collection; DC. Prod. **15²**: 738.

687. STILLINGIA ANGUSTIFOLIA Engelm. 1847. Proc. Amer. Acad. **18**: 154. *S. sylvatica linearifolia* Muell. DC. Prod. **15²**: 1158.

688. ACALYPHA LINDHEIMERI Muell. L. 382. Upper Guadalupe. May–Aug. 1845.

Co-type collection; Linn. **34**: 47.

689 & 690. A. RADIANS Torr. var. GERANIIFOLIA Muell. L. 473. Llano River. Oct. 1847. Type collection; Linn. **34**: 52.

691. CROTON GLANDULOSUS L. var. LINDHEIMERI Muell. L. v. Llano River. Aug. 1848. Type collection; DC. Prod. **15²**: 685.

691b. C. GLANDULOSUS L. var. SEPTENTRIONALIS Muell.

Type collection; DC. Prod. **15²**: 686.

692. C. MONANTHOGYNUS Michx. L. 302. New Braunfels. July 1846.

693. EUPHORBIA SERPENS HBK. L. 1. Llano River. Aug. 1848.

694. E. ANGUSTA Engelm. "From the crevices of limestone rocks from a thick, black, ligneous root; many erect stems. On the knobs near the Cibolo and Sabinas." June, July 1847.

695. E. NUTANS Lag. L. 443. Friederichsburg. Sept. 1847.—L. 451. Piedernales. Sept. 1847.

696 & 697. E. HETEROPHYLLA L. New Braunfels. April 1848.

698. E. LONGICRURIS Scheele. New Braunfels. April, May 1848.

699. E. ROEMERIANA Scheele. New Braunfels. April 1848.

700. FORESTIERA PUBESCENS Nutt. New Braunfels. Feb., May 1848. "Shady woods near water."

701. MORUS MICROPHYLLA Buckl. New Braunfels. May 1848.

702. URTICA CHAMAEDRYOIDES Pursh. New Braunfels. April 1848.

705. NAIAS GUADALUPENSIS Morong var. L. 439. New Braunfels. 1847.

A small diffuse form about 1 cm. high with leaves 4–7 mm. long.

707. COOPERIA DRUMMONDII Herb. L. 454. New Braunfels. Aug. 1847.

708. NEMASTYLIS ACUTA Herb. New Braunfels. April 1848.

709. YUCCA RUPICOLA Scheele. L. 326. New Braunfels. June 1846.—New Braunfels. April 1848. Mex. Bound. Surv. **2**: 221.

710. ANDROSTEPHIUM COERULEUM Greene. New Braunfels. May 1848. *A. violaceum* Torr. Co-type collection; Mex. Bound. Surv. **2**: 219. Type locality.

711. SCHOENOCAULON DRUMMONDII Gray. (New Braunfels). May 1848.

712. NOLINA TEXANA Wats. L. 298. San Antonio. May 1845.—(New Braunfels). May 1846. Co-type collection; Proc. Am. Acad. **14**: 248.
"On rocky soil; bushes 4–6 feet high, gregarious; characteristic of the mountain region."

713. SAGITTARIA PLATYPHYLLA J. G. Smith. L. 437. New Braunfels. July 1847. See Rep. Mo. Bot. Gard. **6**: 56.

714. ECHINODORUS CORDIFOLIUS Griseb. L. 438. New Braunfels. July 1847.—Cibolo River. June 1847.

Plants vary from 5 cm. to 6 dm. high.

715. COMMELINA VIRGINICA L. New Braunfels. June 1848.

716. C. ANGUSTIFOLIA Michx. New Braunfels. May 1848.

717. DICHROMENA COLORATA Hitchk. L. 500. Piedernales River. Sept. 1847.

718. D. NIVEA Boeckl. L. 417. Between the Piedernales and Llano. June 1847. "In shallow basins of decomposed limestone, on rocky knobs."

719. ELEOCHARIS CELLULOSA Torr. L. 494. Friederichsburg. Sept. 1847. "In swampy places."

720. CENCHRUS TRIBULOIDES L. Piedernales. Oct. 1847.

722. PANICUM LACHNANTHUM Gray. 1847.

723. P. LACHNANTHUM Gray. L. 449 & 450. Llano River. Oct. 1847.

724. SOROBOLUS CRYPTANDRUS Gray var. STRICTUS Scribn. Dry mountain prairies on the Llano. Oct. 1847.

A small slender form with the panicles partly or wholly included in the upper leaf sheath (var. *expansa* Thurber in Engelm. Herb.)

725. EPICAMPES DISTICHOPHYLLA Vasey var. MUTICA Scribn. L. 465. Friederichsburg. Sept. 1847.

726. SOROBOLUS ASPER Kunth. L. 446. Llano River. Oct. 1847. In rocky soil.

727. THURBERIA ARKANSANA Benth. New Braunfels. May 1848.

728. PANICUM CURTISII Steud. 1847.

729. MELICA DIFFUSA Pursh. L. 389. Piedernales River. May 1847.

730. CHLORIS VERTICILLATA Nutt. var. ARISTULATA Torr. L. 448. Llano. Oct. 1847.

731. BOUTELOUA HIRSUTA Lag. L. 496. Friederichsburg. Sept. 1847.

732. B. TEXANA Wats. L. (7). Llano. Oct. 1847.

Co-type collection; Proc. Am. Acad. **18**: 196.

733. PANICUM VIRGATUM L. L. 488. Llano River. Oct. 1847.

P. giganteum Scheele. Linn. **22**: 340.

734. ERAGROSTIS INTERRUPTA Trelease. 1847.

See Beal's Grasses of N. Am. **2**: 483.

735. E. INTERRUPTA Trelease. L. 453. Piedernales River. Nov. 1847.

736. E. TRICHODES Nash. ?L. 447. Llano River. Oct. 1847.

737. SIEGLINGIA ALBESCENS Kuntze. Llano River. Oct. 1847.

738. S. ACUMINATA Kuntze. L. 455. 30 mi. N. of Friederichsburg. Oct. 1847.

739. ELYMUS VIRGINICUS L. L. 134. New Braunfels. May 1846.

740. CHRYSOPOGON AVENACEUS Benth. L. 460. Friederichsburg. Oct. 1847.

741. ANDROPOGON FURCATUS Muhl. L. 495. Piedernales River. Sept. 1847.

742. DRYOPTERIS PATENS Kuntze. L. 434. New Braunfels. July 1847. "Shady, rocky river banks." See Hooker, Sp. Fil. **4**: 96.

743. CHEILANTHES TOMENTOSA Link. L. 442. On granite peaks 5 mi. N. of Friederichsburg. Sept. 1847. Torr. Bull. **30**: 352.

744. CHEILANTHES LINDHEIMERI Hook. L. 441. On granite peaks 5 mi. N. of Friederichsburg. Sept. 1847.

Type collection; Hooker, Sp. Fil. **2**: 101. Torr. Bull. **30**: 353.

745. MARSILIA TENUIFOLIA Engelm. L. 374. "Ponds in shady woods on the Piedernales." May 1847.

Type collection; Am. Jour. Sci. II. **6**: 89. n.—A. Br. Mars. & Pil. 740.

746. M. UNCINATA A. Br. var. TEXANA. A. Br. L. 404. "In the pools in the mountains between the Cibolo and Upper Guadalupe." June 1847.

Type collection; A. Br. Marsil. & Pilul. 742. 1870.

747. CHARA INTERMEDIA A. Br. forma *gracilior*. Friederichsburg? 1847. C. *contraria* A. Br. var. *robusta* A. Br. See Braun-Nordstedt, Fragmente. 153, 154.

748. C. CONTRARIA A. Br. forma *minor*. Friederichsburg. 1847. See Braun-Nordstedt, Fragmente. 144.

749. C. CONTRARIA A. Br. var. HISPIDULA A. Br. L. 747a. Piedernales. Oct. 1845. C. *Lindheimeri*

A. Br. and *C. contraria Lindheimeri* A. Br. Braun-Nordstedt, Fragmente. 145. Type collection.

750. C. FOETIDA A. Br. Friederichsburg. 1847. Braun-Nord., Frag. 163.

751. C. GYMNOPUS A. Br. var. CONJUGENS A. Br. Friederichsburg. Oct. 1847. *C.* (*polyphylla*) *conjugens* A. Br. Braun-Nord., Frag. 195.

752. C. GYMNOPUS A. Br. var. HUMBOLDTII A. Br. Friederichsburg. Oct. 1847. C. *Humboldtii* A. Br. *C. polyphylla Humboldtii* and *C. polyphylla Muhlenbergii* A. Br. Pl. Lind. 1:56. Braun-Nordt., Frag. 195.

753. NITELLA PRAELONGA A. Br. L. XX. Three Creeks between the Upper Guadalupe and the Piedernales. July 1848.

754. RICCIA FLUITANS L. "On the muddy bottom of Comale Creek under water." 1847.

SPECIES COLLECTED IN COMAL COUNTY AND REGION ADJACENT IN 1849–1851.

In the following list the general sequence of orders is that of the published "Plantae Lindheimerianae," and the numbers immediately succeed those of Part II, so as to secure general uniformity with that publication, of which this is a continuation. Each number represents a separate collection and, when the species is the same as that of a previous collection, the number of such previous species follows in parenthesis, those of the unpublished issues being preceded by III or IV to indicate the fascicle. After the specific name, is given Lindheimer's collection number (L.), as these have been quoted in a number of publications from sets or specimens already distributed. The regularity with which he numbered his collections has made it possible to supply much of the missing data for each number, but all localities and dates thus supplied are given in parenthesis, so as to distinguish them from data found on labels. The references given are mainly to literature where the specimens are quoted or the synonym mentioned. The genus *Carex* is strangely missing from this collection and it is probable that it was sent to some specialist and misplaced or forgotten, as Lindheimer was urged by Gray not to neglect this genus, as collectors are so apt to do.

In this and the preceding lists I have used the term "type collection" to signify the collection from which the original description of the species was made; "co-type" or "co-type collection," to indicate other collections quoted in this description after that first mentioned; and the term "type locality," to indicate other specimens collected later at the locality from which the type collection came.

New Braunfels, where most of the specimens were collected and where Lindheimer had his home, is at the junction of Comal Creek with the Guadalupe River, apparently called the Upper Guadalupe above this point, while Comanche Spring is on one of the heads of the Salado some 25 miles south of west of New Braunfels, and later known as von Meusebach's farm.

652. CLEMATIS DRUMMONDII T. & G. L. 338. (New Braunfels). July 1850. (319).

653. C. DRUMMONDII T. & G. (New Braunfels). Sept. 1850.

654. C. PITCHERI T. & G. L. 384. New Braunfels. June 1850. (5 in part).

655. C. PITCHERI T. & G. L. 625. New Braunfels. May 1851.

656. C. COCCINEA Engelm. L. 624. (New Braunfels. Aug. 1851).

657. C. COCCINEA Engelm. (New Braunfels. Aug. 1851).

658. C. COCCINEA Engelm. L. 383. New Braunfels. June 1850.

"Rocky and shady banks." Co-type collection; Plantae Wrightianae. 2:7.

659. RANUNCULUS MACRANTHUS Scheele. L. 435. New Braunfels. March 1850. (320). Type locality; Linn. **21**: 585.

Heads of carpels sometimes oblong-ovate.

660. DELPHINIUM AZUREUM Michx. var. VIMINEUM Gray. L. 360. New Braunfels. April (1850). (321).

Plants mostly small, 3-6 dm. high, and leaves mainly aggregate at base.

661. BERBERIS TRIFOLIOLATA Moricand. L. 539. (New Braunfels). May 1851. (322, 575).

662. NELUMBO LUTEA Pers. L. 646. Cibolo River. June 1851.

663. CORYDALIS CURVISILIQUA Engelm. L. 546. (New Braunfels). May 1851. Type collection; Pl. Wright. 2:10.

Gray gives the collection number as 433, but the type in the Engelmann herbarium shows it to be the same as this.

664. DRABA CUNEIFOLIA Nutt. L. 418. New Braunfels. March 1850. (216).

665. D. CUNEIFOLIA Nutt. L. 516. New Braunfels. 1851.

666. LESQUERELLA ENGELMANNI Wats. L. 526. New Braunfels. April 1851. (325, 576). Apparently the type locality.

667. L. ENGELMANNI Wats. L. 421. New Braunfels. May 1850.

668. L. GRACILIS Wats. L. 266. (New Braunfels). April 1850. (331).

669. L. GRACILIS Wats. var. SESSILIS Wats. L. 301. New Braunfels. May 1850.

670. L. ARGYREA Wats. L. 367. New Braunfels. April 1850. (329).

671. LEPIDIUM MEDIUM Greene. L. 462. New Braunfels. May 1850.

L intermedium? Gray; Pl. Wright. 2:15.

672. L. LASIOCARPUM Nutt. L. 459. New Braunfels. April 1850. Pl. Wright. 2:13.

673. L. LASIOCARPUM Nutt. L. 460. New Braunfels. March, May 1850.

674. ARABIS PETIOLARIS Gray. L. 464. (New Braunfels. May, 1850).

675. A. PETIOLARIS Gray. L. 547. (New Braunfels). May 1851.

676. STREPTANTHUS BRACTEATUS Gray. L. 19. (Comanche Spring). April 1849. (p. 143).

677. LECHEA TENUIFOLIA Michx. L. 344. New Braunfels. June 1850.

678. L. TENUIFOLIA Michx. L. 54. Comanche Spring. June 1849.

678a. IONIDIUM POLYGALAEFOLIUM Vent. New Braunfels. May 1851.

678b. VIOLA OBLIQUA Hill. L. 285. New Braunfels. May 1850.

679. STELLARIA PROSTRATA Baldw. L. 413. (New Braunfels). Jan. 1850. (336).

680. ARENARIA BENTHAMII Fenzl. L. 544. New Braunfels. Aug. 1851.

681. CALLIRHOË PEDATA Gray. L. 550? New Braunfels. May 1851. (349).

682. MALVASTRUM TRICUSPIDATUM Gray. L. 295. New Braunfels. June 1850. (351).

683. M. WRIGHTII Gray. L. 304. (New Braunfels). July 1850. (350).

684. PAVONIA LASIOPETALA Scheele. L. 332. New Braunfels. June 1850. (352). Type locality; Linn. **21**: 470.

685. MALVAVISCUS DRUMMONDII T. & G. L. 108. (Comanche Spring). Aug. 1849. (25).

686. GUAIACUM ANGUSTIFOLIUM Engelm. L. 559. (New Braunfels). April 1851. (582).

687. MELOCHIA PYRAMIDATA L. L. 299. New Braunfels. June 1850. (356).

688. LINUM RUPESTRE Engelm. L. 76. Comanche Spring. July 1849. (337). Co-type collection; Pl. Lind. 2: 232.

689. L. BERLANDIERI Hook. L. 365. New Braunfels. April 1850. (22, 581).

690. ERODIUM TEXANUM Gray. L. 259. New Braunfels. April 1850. (340).

Co-type locality; Pl. Lind. 2:157, which doubtless represents the specimens from which Gray drew his description in Gen. Ill. **2**: 130.

691. OXALIS DRUMMONDII Gray. L. 175. (New Braunfels). 1850. (341).

692. GALPHIMIA ANGUSTIFOLIA Benth. L. 69. Comanche Spring. June, July 1849. (361).

693. THAMNOSMA TEXANUM Torr. L. 3. Comanche Spring. May 1849. (343).

694. PTELEA BALDWINII T. & G. L. 533. (New Braunfels). April 1851.

695. P. BALDWINII, T. & G. New Braunfels. June 1851.

A form with shorter and wider leaves somewhat pubescent below.

696. XANTHOXYLUM CLAVA-HERCULIS L. var. FRUTICOSUM Gray. L. 339. New Braunfels. April 1850.

697. X. CLAVA-HERCULIS L. var. FRUTICOSUM Gray. New Braunfels. April 1850.

698. ILEX DECIDUA Walt. L. 417. (New Braunfels). March 1850.

699 RHAMNUS CAROLINIANA Walt. L. 387. New Braunfels. Sept. 1850. (227).

700. CONDALIA OBOVATA Hook. L. 293. New Braunfels. April 1850. (366, 589).

701. C. OBTUSIFOLIA Weber. (New Braunfels. 1851?). (364, 588).

702. C. LYCIOIDES Weber. L. 364. New Braunfels. April 1850. (p. 168, n.).

703. C. LYCIOIDES Weber. L. 578. New Braunfels. June 1851.

Form tending toward *C. obtusifolia* Web.

704. CEANOTHUS OVATUS Desf. L. 6. Comanche Spring. March 1849. (p. 170).

5 dm. or more high.

705. C. OVATUS Desf. L. 572. (New Braunfels). April 1851.

1.5 dm. high.

706. C. OVATUS Desf. L. 517. New Braunfels. March 1851.

1–5 dm. high.

707. C. OVATUS Desf. L. 436. New Braunfels. March 1850.

708. COLUBRINA TEXENSIS Gray. L. 424. New Braunfels. March 1850. (365).

709. C. TEXENSIS Gray. L. 283. New Braunfels. March 1850.

710. C. TEXENSIS Gray. L. 286. New Braunfels. June 1850.

A form tending toward *C. stricta* Engelm.

711. C. STRICTA Engelm. New Braunfels. June 1850. The type collection; Pl. Wright. 1:33.

712. C. STRICTA Engelm. L. 582. New Braunfels. June 1850. Co-type collection.

713. C. STRICTA Engelm. New Braunfels. June 1850. Co-type collection.

714. C. STRICTA Engelm. New Braunfels. 1850. Co-type collection.

715. VITIS RUPESTRIS Scheele. L. 13? (Comanche Spring). 1849.
716. V. AESTIVALIS Michx. L. 312. New Braunfels. May 1850. (359).
717. CISSUS AMPELOPSIS Pers. L. 348. New Braunfels. June 1850.
718. C. STANS Pers. L. 307. New Braunfels. July 1850. (26).
719. C. INCISA Desmoul. L. 497. (New Braunfels). Aug. 1850. (166).

Leaves mostly simple but more or less three-lobed.

720. AMPELOPSIS HEPTAPHYLLA Buckl. New Braunfels. 1850.
721. A. HEPTAPHYLLA Buckl. L. 550. New Braunfels. May 1851.
722. SAPINDUS DRUMMONDII H. & A. L. 579. (New Braunfels). May 1851. (226, 587).
723. UNGNADIA SPECIOSA Endl. L. 515. New Braunfels. 1850. (363, 586).
724. U. SPECIOSA Endl. L. 422? (New Braunfels. Aug. 1851?).
725. AESCULUS OCTANDRA Marsh. New Braunfels. (March) 1850.
726. A. OCTANDRA Marsh. var. HYBRIDA Sargent. L. 423b. New Braunfels. April 1850. (225, 362).
727. A. OCTANDRA Marsh. var. HYBRIDA Sarg. L. 531. New Braunfels. March 1851.
728. RHUS COPALLINA L. var. LEUCANTHA DC. L. 452. (New Braunfels). July 1850. (345).
729. R. VIRENS Lindh. L. 430. New Braunfels. Oct. 1850. (348). Type locality.
730. R. VIRENS Lindh. L. 480. (New Braunfels. April 1850).
731. R. VIRENS Lindh. L. 210. New Braunfels. Nov. 1849. Type locality.
732. R. TRILOBATA Nutt. New Braunfels. March 1850.
733. R. TRILOBATA Nutt. L. 16. (Comanche Spring). May 1849.

734. R. MICROPHYLLA Engelm. L. 425. New Braunfels. March 1850. Type collection; Pl. Wright. 1:31.

735. R. MICROPHYLLA Engelm. L. 337. (New Braunfels). May 1850. Co-type.

736. POLYGALA ALBA Nutt. L. 545. (New Braunfels. Oct.) 1851. (220).

Plants unusually large, 3-5 dm. high.

737. KRAMERIA SECUNDIFLORA DC. L. 80. Comanche Spring. (July) 1849. (13, p. 151).

738. ACACIA FILICIOIDES Trelease. L. 550. New Braunfels. May 1851. (49).

739. A. ROEMERIANA Scheele. L. 25. Comanche Spring. April 1849. (387, 604, 605).

740. A. ROEMERIANA Scheele. L. 530. (New Braunfels. April 1851).

741. A. ROEMERIANA Scheele. L. 566. (New Braunfels. May 1851).

742. AMORPHA FRUTICOSA L. L. 455. (New Braunfels). Aug. 1850. (595).

743. A. TEXANA Buckl. L. 296. (New Braunfels). May 1850.

APIOS TUBEROSA Moench. (New Braunfels). 1850.

744. ASTRAGALUS CARYOCARPUS Ker. L. 400. New Braunfels. March 1850. (596, 598, 230).

745. A. CARYOCARPUS Ker. L. 347. (New Braunfels. June 1850).

746. A. LINDHEIMERI Engelm. L. 258. Santa Clara, 10 mi. S. of New Braunfels. April 1850. "On rich muskit soil near water."

Co-type collection; Pl. Wright. 1:52. Specimens unusually large.

747. A. LINDHEIMERI Engelm. L. 542. (New Braunfels). April 1851.

748. A. NUTTALLIANUS DC. var. TRICHOCARPUS T. & G. L. 394. New Braunfels. March 1850. (45). *Hamosa austrina* Small.

749. A. WRIGHTII Gray. L. 8. (Comanche Spring. April 1849?). (p. 176).

750. CASSIA LINDHEIMERIANA Scheele. L. 494. New Braunfels. Aug. 1850. (380). Type locality.

751. C. ROEMERIANA Scheele. L. 120. San Antonio. June 1849. (381).

752. CERCIS OCCIDENTALIS Torr. L. 514. (New Braunfels). March 1851. (377).

753. C. OCCIDENTALIS Torr. L. 592. (New Braunfels. June 1851).

754. DALEA AUREA Nutt. L. 253. (New Braunfels). June 1850. (39).

Leaflets 5–7, longer and more narrowly oblanceolate than the normal of the species, sparsely appressed pubescent, or glabrous, bright green above and usually drying flat. A form apparently confined to Texas.

755. D. AUREA Nutt. L. 607. (New Braunfels). July 1851.

These specimens show a decided tendency to form several small heads instead of one large one.

756. D. FRUTESCENS Gray. L. 104? Comanche Spring. Aug. 1849. (376).

757. D. LAXIFLORA Pursh. L. 78. (Comanche Spring). June 1849. (375).

758. DESMANTHUS ACUMINATUS Benth. L. 601. (New Braunfels). June 1851.

759. D. LEPTOLOBUS T. & G. L. 578. New Braunfels. June 1851.

760. D. LEPTOLOBUS T. &. G. L. 595. New Braunfels. June 1851.

761. D. RETICULATUS Benth. (New Braunfels. April 1851?).

762. D. RETICULATUS Benth. L. 600. New Braunfels. June 1851.

763. D. VELUTINUS Scheele. (New Braunfels). June 1851. Type locality; Linn. **21**: 455.

764. D. VELUTINUS Scheele. L. 131. Comanche Spring. June 1849. (385).

765. D. VELUTINUS Scheele. L. 613. (New Braunfels. Aug. 1851?).

765a. Desmodium Lindheimeri Vail. L. 499. New Braunfels. Nov. 1850. Co-type collection; Bull. Torr. Bot. Club. **18** : 120; **19** : 111.

766. Desmodium Wrightii Gray. L. 551. New Braunfels. May 1851. (177).

766a. D. paniculatum DC. var. pubens T. & G. New Braunfels. Sept. 1850.

767. Eysenhardtia amorphoides HBK. L. 245. New Braunfels. (July) 1850. (374).

Galactia texana Gray. (Comanche Spring). 1849. (591).

768. Indigofera leptosepala Nutt. L. 281. New Braunfels. May 1850. (34).

769. I. Lindheimeriana Scheele. L. 303. (New Braunfels). 1850. (p. 172).

770. I. Lindheimeriana Scheele. (New Braunfels). June 1850.

770a. Lathyrus pusillus Ell. L. 586. New Braunfels. May 1851.

771. Lupinus subcarnosus Hook. L. 573. (New Braunfels). March 1850. (231). Form *L. texensis* Hook.

772. Acacia Farnesiana Willd. L. 432. (New Braunfels). March 1850. (51).

773. Mimosa fragrans Gray. L. 26. Comanche Spring. April 1849. (606, 607).

774. M. Lindheimeri Gray. L. 581. (New Braunfels. May 1851). (383).

775. Neptunia lutea Benth. L. 229. New Braunfels. June 1850. (48).

776. Prosopis juliflora DC. L. 278. New Braunfels. May 1850. (233, 382).

777. Psoralea cuspidata Pursh. L. 540. (New Braunfels). April 1851. (372).

778. P. cyphocalyx Gray. L. 44. (Comanche Spring). June 1849. (593).

779. P. rhombifolia T. & G. L. 557. (New Braunfels). May 1851.

780. P. rhombifolia T. & G. L. 291. (New Braunfels). June 1850.

781. RHYNCHOSIA MENISPERMOIDES DC. New Braunfels. July 1850. (30).

782. R. MINIMA DC. L. 486. New Braunfels. Sept. 1850. (29). "Climbing high over the grasses."

783. R. TEXANA T. & G. New Braunfels. 1851. (369).

784. R. TEXANA T. & G. var. ANGUSTIFOLIA Gray. L. 412. New Braunfels. July 1850. Type collection; Pl. Wright. 1:44.

785. SCHRANKIA ROEMERIANA (Scheele). L. 68. Comanche Spring. April? 1849. (384). Type locality. *Mimosa Roemeriana* Scheele.

786. S. ROEMERIANA (Scheele). L. 68a. Comanche Spring. June 1849.

787. SESBANIA MACROCARPA Muhl. New Braunfels. 1849. (371).

788. S. MACROCARPA Muhl. L. 398. (New Braunfels). Aug. 1850.

788a. SOPHORA SECUNDIFLORA Lag. L. 509. New Braunfels. March 1851.

788b. VICIA LEAVENWORTHII T. & G. L. 361. New Braunfels. April 1850. (590).

788c. V. TEXANA Small. L. 439. New Braunfels. March 1850.

V. caroliniana texana T. & G.

789. PRUNUS MINUTIFLORA Engelm. L. 401. (New Braunfels). March 1850. (388).

790. P. RIVULARIS Scheele. L. 604. (New Braunfels). July 1851. (389).

791. RUBUS TRIVIALIS Michx. L. 443. New Braunfels. March 1850.

792. FENDLERA RUPICOLA Engelm. & Gray. L. 257. New Braunfels. May 1850.

Type collection; Pl. Wright. 1:78, where it is described as var. *Lindheimeri* Engelm. & Gray.

793. F. RUPICOLA Engelm. & Gray. L. 506. New Braunfels. March 1851.

"Perpendicular rocks on the Upper Guadalupe 6 miles above New Braunfels." Apparently the type locality.

794. F. RUPICOLA Engelm. & Gray. L. 506b. New Braunfels. 1851.

795. SEDUM TORREYI Don. L. 241. New Braunfels. May 1850. (245).

796. LYTHRUM LINEARIFOLIUM Small. L. 30. Comanche Spring. June 1849. (188).

797. L. LINEARIFOLIUM Small. L. 110. Comanche Spring. Aug. 1849.

798. L. LINEARIFOLIUM Small. L. 248. New Braunfels. July 1850.

799. L. ALATUM Pursh. L. 101. (Comanche Spring). Aug. 1849.

Leaves scarcely clasping at base, sometimes even cuneate, and obtuse or rounded at apex.

800. GAURA COCCINEA Nutt. L. 43. Comanche Spring. May 1849.

A sparsely canescent, large-leaved form near var. *glabra* T. & G.

801. G. PARVIFLORA Dougl. L. 560. (New Braunfels). May 1851. (241).

802. G. SINUATA Nutt. L. 230. New Braunfels. (June) 1850. (60).

The small, narrow, glabrous-leaved form.

803. G. SINUATA Nutt. L. 529. New Braunfels. April 1851.

Glabrous form; lower leaves much larger and more deeply lobed than the upper.

804. G. SINUATA Nutt. L. 538. (New Braunfels). April 1851.

A large-leaved, canescent form, apparently tending toward *G. Drummondii* T. & G.

805. G. SUFFULTA Engelm. L. 558. (New Braunfels). April 1851. (611).

The type locality and very similar to the type specimens.

806. JUSSIAEA SUFFRUTICOSA L. L. 397. New Braunfels. July 1850.

807. LUDWIGIA NATANS Ell. L. 640. (New Braunfels. July) 1851. (395).

808. Oenothera Jamesii T. & G. L. 305. (New Braunfels). Aug. 1850. (p. 189).

809. O. serrulata Nutt. var. spinulosa T. & G. L. 272. New Braunfels. May 1850. (238, 393).

810. O. sinuata L. L. 368. New Braunfels. April 1850.

811. O. speciosa Nutt. L. 82. Comanche Spring. June 1849. (55).

812. O. triloba Nutt. L. 522. New Braunfels. April 1851. (392).

813. Stenosiphon linifolium Britton. L. 100. Comanche Spring. Aug. 1849. (242).

814. Eucnide bartonioides Zucc. L. 419. (New Braunfels. March) 1850. (p. 191).

815. Mentzelia nuda T. & G. L. 126. Cibolo River. July 1849. (p. 191).

A small-flowered form.

816. M. oligosperma Nutt. L. 121. Comanche Spring. June 1849. (396).

817. Passiflora affinis Engelm. L. 174. Comanche Spring. Aug., Sept. 1849.

The type collection; Pl. Lind. 2:233.

818. Cucurbita foetidissima HBK. L. 406. (New Braunfels. March) 1850. (398).

The *C. perennis* of Gray and type locality; Pl. Lind. 2:193.

819. C. foetidissima HBK. L. 588. (New Braunfels. May 1851).

820. C. texana Gray. L. 577. (New Braunfels. March 1851). (400).

Considered by Lindheimer as his *C. texana* and apparently from the same region as his type, but most of these specimens approach more nearly the normal leaf of *C. Pepo* L., of which it is probably only a wild form.

"The small, wild Texas pumpkin (*Cucurbita texana*) is excellcellent protection against mice and seed-eating insects. Its narrow neck can be easily closed with a cork and the name of the contents written on the outside."—Lindheimer, Aufsätze u. Abhandlungen. 54.

821. C. texana Gray. L. 135. (Comanche Spring). 1849.

Leaves mostly divided as in the typical *C. texana*, but in part lobed much as in *C. Pepo*.

822. MAXIMOWICZIA LINDHEIMERI Cogn. L. 589. (New Braunfels). May 1851. (612).

Type locality and specimens very similar to the type.

823. MELOTHRIA CHLOROCARPA Engelm. L. 465. (New Braunfels. May 1850).

Apparently the type collection; Pl. Wright. 1:74.

824. M. CHLOROCARPA Engelm. L. 520. New Braunfels. July 1851. Type locality.

825. SICYOS ANGULATA L. L. 331. (New Braunfels. June) 1850. (397).

826. OPUNTIA MACRORHIZA Engelm. L. 597. New Braunfels. (July) 1850. (206)

Type locality.

827. O. MACRORHIZA Engelm. L. 597b. (New Braunfels), May 1851. (p. 206).

This and No. 826 seem to be the oldest specimens of this species in the Engelmann Herbarium, with the exception of a few flowers and fruits preserved from cultivated plants.

828. O. VAGINATA Engelm. L. 537. (New Braunfels. April) 1851.

829. MOLLUGO VERTICILLATA L. (No data).

830. BIFORA AMERICANA Wats. L. 340. New Braunfels. May 1850. (405).

831. B. AMERICANA Wats. L. 340a. (New Braunfels). June 1850.

832. DISCOPLEURA LACINIATA Wats. L. 79. Comanche Spring. July 1849. (404).

833. D. LACINIATA Wats. L. 79a. Comanche Spring. July 1849.

This appears to be a co-type; Pl. Lind. 2:211.

834. D. LACINIATA Wats. L. 310. New Braunfels. July 1850.

835. D. LACINIATA Wats. L. 310a. New Braunfels. July? 1850.

836. ERYNGIUM LEAVENWORTHII T. & G. L. 103. (Comanche Spring. July 1849). (403).

837. E. LEAVENWORTHII T. & G. L. 451. New Braunfels. Aug. 1850.

838. HYDROCOTYLE ASIATICA L. L. 630. New Braunfels. Aug. 1851. (613).

839. H. UMBELLATA L. L. 568. (New Braunfels). May 1851. (p. 209).

Plants mostly 3 dm. high and leaves 6 cm. in diameter.

840. CORNUS ASPERIFOLIA Michx. L. 318. New Braunfels. April 1850.

841. C. ASPERIFOLIA Michx. L. 318a. New Braunfels. (Aug.?) 1850.

842. GARRYA LINDHEIMERI Torr. L. 27. Comanche Spring. May 1849. (III–536).

843. G. LINDHEIMERI Torr. L. 512. (New Braunfels. July 1851).

844. G. LINDHEIMERI Torr. L. 27. (Comanche Spring. May 1849?).

845. LONICERA ALBIFLORA T. & G. L. 9. 20 mi. N. of San Antonio. April 1849.

846. SYMPHORICARPOS SPICATUS Engelm. L. 205. New Braunfels. Nov. 1849.

The type collection; Pl. Lind. 2:215.

847. S. SPICATUS Engelm. L. 320. New Braunfels. July 1850. Type locality.

848. VIBURNUM RUFOTOMENTOSUM Small. L. 507. New Braunfels. March 1851.

849. CRUSEA TRICOCCA Heller. L. 595. New Braunfels. (June 1851). (247).

850. VALERIANELLA AMARELLA Krok. L. 12. Comanche Spring. May 1849.

The type collection; Pl. Lind. 2:217, n. *Fedia amarella* Lindh.

851. V. AMARELLA Krok. L. 12a. (Comanche Spring. July?) 1849.

Apparently a co-type.

852. V. STENOCARPA Krok. L. 513. New Braunfels. March 1851. (407).

Type locality.

853. ACTINELLA LINEARIFOLIA T. & G. L. 39. Comanche Spring. June 1849. (267, 648).

854. AMBLYOLEPIS SETIGERA DC. L. 302. New Braunfels. May 1850.

"Muskit prairies, 12 mi. S. W. of New Braunfels."—Pl. Wright. 1:121.

855. AMBROSIA APTERA DC. L. 109. Comanche Spring. Aug. 1849. (428).

856. A. APTERA DC. L. 533? New Braunfels. July 1851?

857. A. APTERA DC. L. 484. (New Braunfels). Nov. 1850.

858. A. ARTEMISIAEFOLIA L. var. PANICULATA (Michx.). L. 171. Comanche Spring. Oct. 1849. *A. paniculata* Michx. Fl. **2**: 183.

A very slender, smoothish, widely branching form with leaves less divided than in *A. artemisiaefolia* L., the segments oblong-lanceolate to linear: sterile racemes loosely flowered and heads small (2 mm.): fruit small, with inconspicuous lateral tubercles. A well-marked variety approaching *A. glandulosa* Scheele. Linn. **22**: 157.

859. A. ARTEMISIAEFOLIA L. var. PANICULATA (Michx.) L. 502. (New Braunfels). Sept. 1850.

860. A. PSILOSTACHYA DC. L. 145. San Antonio. Sept. 1849.

An unusually large coarse form, 6-9 dm. high, with strigose pubescent leaves and segments relatively few and long lanceolate-acuminate; sterile racemes elongated and heads about 3 mm. diameter.

861. A. PSILOSTACHYA DC. var. LINDHEIMERIANA (Scheele). L. 390. New Braunfels. Sept. 1850. (429). *A. Lindheimeriana* Scheele. Linn. **22**: 156. *A. coronopifolia* T. & G. var. Gray, Pl. Lind. 2:226.

Leaves in these specimens vary considerably in pubescence and dissection. A well-marked variety.

862. AMPHIACHYRIS DRACUNCULOIDES Nutt. L. 474. (New Braunfels). Oct. 1850. (422).

863. APHANOSTEPHUS RAMOSISSIMUS DC. L. 233. (New Braunfels). July 1850. (414).

864. A. SKIRROBASIS Trelease. L. 254. (New Braunfels). May 1850. (111).

865. A. SKIRROBASIS Trelease. L. 549. (New Braunfels). May 1851.

866. APOGON GRACILIS DC. L. 420. (New Braunfels). April 1850. (447).
867. A. GRACILIS DC. L. 411. New Braunfels. May 1850.
868. ARTEMISIA CAUDATA Michx. L. 180. Comanche Spring. Oct. 1849. (p. 231).
869. A. DRACUNCULOIDES Pursh. L. 477. (New Braunfels). Oct. 1850. (440, 441).
870. A. GNAPHALODES Nutt. L. 478. (New Braunfels). Oct. 1850.
871. A. MEXICANA Willd. L. 472. (New Braunfels). Oct. 1850. (444, 447).
872. ASTER DRUMMONDII Lindl. L. 185. (Comanche Spring). Oct. 1849. (249).
873. A. DUMOSUS L. L. 209. Comanche Spring. Oct. 1849.
874. A. EXILIS Ell. L. 153. Comanche Spring. Oct. 1849. (p. 219).
875. A. EXILIS Ell. L. 388. New Braunfels. Sept. 1850.
876. A. MULTIFLORUS Ait. L. 190. San Antonio. Oct. 1849. (p. 219).

A glabrate form, varying to densely pubescent in the different specimens and with heads more scattered as if tending toward *A. vimineus* Lam.

877. A. OBLONGIFOLIUS Nutt. L. 187. Comanche Spring. Nov. 1849.
878. A. OBLONGIFOLIUS Nutt. L. 208. New Braunfels. (Nov.) 1849.
879. A. PANICULATUS Lam. var. SIMPLEX Burgess. L. 214. (New Braunfels). Nov. 1849. *A. simplex* Willd.
880. A. PANICULATUS Lam. L. 538. (New Braunfels). 1851.
881. A. SALICIFOLIUS Lam. L. 207. New Braunfels. (Nov.) 1849. (p. 219).
882. A. SALICIFOLIUS Lam. L. 186. Comanche Spring. Nov. 1849.
883. A. SALICIFOLIUS Lam. var. CANESCENS Gray. L. 536. (New Braunfels. April) 1851.
884. A. SERICEUS Vent. L. 188. Comanche Spring. Oct. 1849. (p. 219).
885. BACCHARIS ANGUSTIFOLIA Michx. L. 168. (Comanche Spring). Sept. 1849.

886. BERLANDIERA TEXANA DC. L. 249. New Braunfels. June 1850. (424).

887. BIDENS LAEVIS BSP. L. 483. New Braunfels. Oct. 1850. (435).

888. B. FRONDOSA L. L. 9. (Comanche Spring. May 1849).

889. BRICKELLIA CYLINDRACEA Gray & Engelm. L. 182. Comanche Spring. Oct. 1849. (412). Near the type locality.

890. B. RIDDELLII Gray. L. 181. Comanche Spring. Oct. 1849. (409).

This should probably be *B. dentata* (DC.), as the fact that *Clavigera dentata* DC., Prod. **5**: 128, is a form variant from the normal is no ground for giving the species a new name. See Pl. Wright. 1:83.

891. B. RIDDELLII Gray. L. 467. New Braunfels. Sept. 1850.

892. CENTAUREA AMERICANA Nutt. L. 34. Comanche Spring. May 1849. (114).

893. CHRYSACTINIA MEXICANA Gray. L. 77. Comanche Spring. June 1849.

894. CHRYSOPSIS VILLOSA Nutt. var. CANESCENS Gray. L. 356. New Braunfels. July 1850. (419). *C. Berlandieri* Greene.

895. CNICUS ALTISSIMUS Willd. var. FILIPENDULUS Gray. L. 33. San Antonio. May 1849. Near the type locality.

It is doubtful if this variety be more than a small, shaded form of *C. discolor* Muhl. with tuberous roots.

896. C. UNDULATUS Gray var. MEGACEPHALUS Gray. L. 46. Salado River. May 1849.

The collection varies considerably as to size of head and leaf dissection.

897. COREOPSIS CARDAMINEFOLIA T. & G. L. 548. New Braunfels. May 1851.

898. ECHINACEA ANGUSTIFOLIA DC. L. 29. (Comanche Spring). May 1849.

899. ELEPHANTOPUS CAROLINIANUS Willd. (No data).

900. ENCELIA CALVA Gray. L. 136. Comanche Spring. June 1849. (433).

901. ENGELMANNIA PINNATIFIDA T. & G. L. 522. New Braunfels. April 1851. (425, 639).

902. ERIGERON MODESTUS Gray. L. 40. (Comanche Spring). June 1849. (627).

The present collection seems undoubtedly perennial, not annual as stated in the Syn. Fl. 1^2: 218.

903. E. PHILADELPHICUS L. L. 496. New Braunfels. March 1850.

904. E. QUERCIFOLIUS Lam. L. 326. New Braunfels. May 1850.

905. E. TENUIS T. & G. L. 346. New Braunfels. April 1850.

906. EUPATORIUM AGERATIFOLIUM DC. var. TEXENSE T. & G. L. 201. New Braunfels. Nov. 1849. (413).

If priority of pagination be followed, this should be *E. Berlandieri texense* (T. & G.).

907. E. AGERATIFOLIUM DC. var. TEXENSE T. & G. L. 481. New Braunfels. Oct. 1850.

908. E. AGERATOIDES L. f. var. ANGUSTATUM Gray. L. 503. (New Braunfels. Sept. 1850).

Some of the specimens approach the type of the species.

909. E. AGERATOIDES L. f. L. 639. Comanche Spring. 1850.

A form approaching *E. incarnatum* Walt. in its marked pubescence, thin, subcordate leaves and subpubescent akenes.

910. E. COELESTINUM L. L. 492. New Braunfels. Oct. 1850.

911. E. SEROTINUM Michx. L. 378. Guadalupe River. Aug. 1850. (p. 219).

912. EVAX PROLIFERA Nutt. L. 543. (New Braunfels). May 1851. (633).

913. FRANSERIA TENUIFOLIA Gray. L. 475. (New Braunfels). Oct. 1850.

914. F. TENUIFOLIA Gray. L. 471. New Braunfels. Oct. 1850. (640?).

915. F. TENUIFOLIA Gray. L. 485. (Comanche Spring). Nov. 1850.

916. GAILLARDIA PULCHELLA Foug. L. 14. (Comanche Spring). May 1849.

A form with leaves almost wholly entire.

917. G. PULCHELLA Foug. L. 329. (New Braunfels). July 1850.

Leaves entire throughout.

918. G. SUAVIS Britt. & Rusby. L. 11. Comanche Spring. May 1849. (437, 646).

919. GRINDELIA INULOIDES Willd. L. 602. New Braunfels. July 1851. (255).

920. G. SQUARROSA Dunal. L. 83. Comanche Spring. July 1849. (418).

921. GUTIERREZIA TEXANA T. & G. L. 189. (Comanche Spring. Nov. 1849).

922. GYMNOSPERMA CORYMBOSUM DC. L. 179. Comanche Spring. Oct. 1849.

923. HELIANTHUS ANNUUS L. L. 320. New Braunfels. June 1850. (259). Form *H. lenticularis* Dougl.

It is questionable whether this huge Texas sunflower which grows high enough to conceal a train of covered wagons in the bottoms should be considered the same as the small northern species of Montana and Alberta, with smaller flowers and leaves, and which in the most favorable situations rarely becomes more than 12 or 15 dm. high.

924. H. ANNUUS L. L. 512. (New Braunfels). July 1851.

925. H. MAXIMILIANI Schrad. L. 157. (Comanche Spring). Oct. 1849. (260).

926. HETEROTHECA SUBAXILLARIS Britt. & Rusby. L. 392. New Braunfels. Aug. 1852. (88).

927. HYMENATHERUM PENTACHAETUM DC. L. 38. Comanche Spring. June 1849.

928. H. TAGETOIDES Gray. L. 59. Comanche Spring. June 1849. (265).

929. HYMENOPAPPUS CORYMBOSUS T. & G. L. 327. New Braunfels. May 1850. (438).

930. IVA ANGUSTIFOLIA Nutt. L. 183. (Comanche Spring). Oct. 1849. (427).

931. I. CILIATA Willd. L. 386. New Braunfels. Sept. 1850.

932. KEERLIA BELLIDIFOLIA Gray & Engelm. L. 279. New Braunfels. April 1850. (415, 628). Type locality; Proc. Amer. Acad. **1**: 47.

933. K. EFFUSA Gray. L. 141. (Comanche Spring). 1849. (629).

Probably the type locality.

934. KUHNIA GLUTINOSA Ell. L. 146. Comanche Spring. 1849. (410).

935. K. ROSMARINIFOLIA Vent. var. GRACILLIMA (Gray). L. 177. Cibolo River. Oct. 1849. (411). *K. eupatorioides gracillima* Gray. Pl. Lind. 2 : 218.

Type locality apparently.

936. LACTUCA FLORIDANA Gaertn. L. 377. New Braunfels. Aug. 1860.

937. LAPHAMIA LINDHEIMERI Gray. L. 314. New Braunfels. May 1850.

"Perpendicular rocks on the banks of the Guadalupe River near New Braunfels exposed to the full glare of the sun." Pl. Wright. 1 : 101. Type collection.

938. LEPACHYS COLUMNARIS T. & G. L. 234. (New Braunfels. Aug. 1850).

939. L. COLUMNARIS T. & G. var. PULCHERRIMA T. & G. L. 234a. (New Braunfels). Aug. 1850. (642).

940. LIATRIS ACIDOTA Engelm. & Gray var. MUCRONATA Gray. L. 155. Comanche Spring. Sept. 1849. (p. 10).

941. L. ACIDOTA Engelm. & Gray var. MUCRONATA Gray. L. 468. New Braunfels. Sept. 1850.

Many of these specimens seem near *L. punctata* Hook.

942. L. PUNCTATA Hook. L. 170. (Comanche Spring. Sept. 1849). (218).

943. L. PUNCTATA Hook. L. 372. New Braunfels. Sept. 1850.

944. LINDHEIMERA TEXANA Gray & Engelm. L. 71. Comanche Spring. May 1849. (424, 638).

An old mature form.

945. L. TEXANA Gray & Engelm. L. 423. New Braunfels. March 1850.

Type locality. Mainly young plants.

946. L. TEXANA Gray & Engelm. L. 554. New Braunfels. March 1850. Type locality.

947. LYGODESMIA APHYLLA DC. var. TEXANA T. & G. L. 32. (Comanche Spring. June 1849). (270, 651).

948. MARSHALLIA CAESPITOSA Nutt. L. 287. New Braunfels. May 1850. (110, 647).

949. MELAMPODIUM CINEREUM DC. L. 1. Comanche Spring. March 1849. (636).

950. MIKANIA SCANDENS Willd. L. 385. New Braunfels. Sept. 1850. (77).

951. PARTHENIUM HYSTEROPHORUS L. L. 309. New Braunfels. July 1850. (426).

952. PINAROPAPPUS ROSEUS Less. L. 359. New Braunfels. April 1850. (448, 650).

953. PLUCHEA PURPURASCENS DC. L. 453. (New Braunfels). Aug. 1850.

954. POLYMNIA UVEDALIA L. L. 381. New Braunfels. Aug. 1850. (637).

955. POLYPTERIS CALLOSA Gray. L. 535. New Braunfels. (April) 1850.

956. P. CALLOSA Gray. L. 188. Comanche Spring. Nov. 1849.

Form near *Othake roseum* Bush, Trans. St. L. Acad. Sci. **14**: 175.

957. SCLEROCARPUS MAJOR Small. L. 247. (New Braunfels. July 1850). (432).

958. SENECIO OBOVATUS Muhl. var. ROTUNDUS Britt. L. 441. New Braunfels. March 1850.

959. S. OBOVATUS Muhl. var. ROTUNDUS Britt. L. 510. New Braunfels. March 1851.

960. S. OBOVATUS Muhl. var. ROTUNDUS Britt. L. 510a. New Braunfels. March 1851.

961. SILPHIUM ASPERRIMUM Hook. L. 510b. (New Braunfels. March 1851).

962. S. SCABERRIMUM Ell. L. 37. Comanche Spring. May 1849. (257).

963. SOLIDAGO CANADENSIS L. var. CANESCENS Gray. L. 153. Comanche Spring. Oct. 1849.

Upper surface of the leaves somewhat too scabrous for the typical form of the variety.

964. S. CANADENSIS L. var. SCABRA T. & G. L. 479. (New Braunfels). Oct. 1850.

Varying nearly to the typical form of the species in some specimens.

965. S. NEMORALIS Ait. L. 156. Comanche Spring. Oct. 1849. (p. 223).

966. S. RADULA Nutt. L. 152. Comanche Spring. Oct. 1849. (p. 223).

967. S. RADULA Nutt. var. ROTUNDIFOLIA (DC.). L. 391. New Braunfels. Sept. 1850. *S. rotundifolia* DC.; *S. scaberrima* T. & G.

Tall plants with the leaves on the flowering branches greatly reduced.

968. S. SPECIOSA Nutt. var. RIGIDIUSCULA T. & G. L. 178. (Comanche Spring). Oct. 1849. (417).

969. TETRAGONOTHECA TEXANA Gray & Engelm. L. 544. (New Braunfels). Oct. 1851. (258, 431).

970. THELESPERMA SIMPLICIFOLIUM Gray. L. 580. (New Braunfels. May 1851). *T. subsimplicifolium* Gray.

971. VERNONIA INTERIOR Small. L. 393. New Braunfels. Aug. 1850.

972. V. LINDHEIMERI Gray. L. 127. Comanche Spring. July 1849. (408).

Fairly representative of the type.

973. VIGUIERA HELIANTHOIDES HBK. L. 184? Comanche Spring. Oct. 1849. (434).

974. V. HELIANTHOIDES HBK. L. 476. (New Braunfels). Oct. 1850.

975. ZEXMENIA HISPIDA Gray. L. 137. Comanche Spring. July 1849. (436).

976. Z. HISPIDA Gray. L. 321. (New Braunfels. July 1850).

977. Z. HISPIDA Gray. L. 509. (New Braunfels). June 1851.

978. LOBELIA SPLENDENS Willd. L. 466. (New Braunfels). Sept. 1850. (III-449).

979. BUMELIA LANUGINOSA Pers. L. 269. New Braunfels. July 1850.

980. DIOSPYROS TEXANA Scheele. L. 527. New Braunfels. March 1851. (III-451, 452, 453).

Type locality; Linn. **22**: 146.

981. FORESTIERA PUBESCENS Nutt. L. 501. (New Braunfels). Feb. 1850. (IV-700; III-537).

982. FRAXINUS AMERICANA L. var. TEXENSIS Gray. L. 240. (New Braunfels). May 1850.

983. MENODORA LONGIFLORA Gray. L. 111. (Comanche Spring). July 1849. (IV-652).

984. MACROSIPHONIA BERLANDIERI Gray. L. 128. Comanche Spring. June 1849.

985. ACERATES AURICULATA Engelm. L. 122. Comanche Spring. July 1849.

986. A. VIRIDIFLORA Ell. L. 633. New Braunfels. July 1851. (III-457).

987. ASCLEPIAS LINEARIS Scheele. L. 631. New Braunfels. June 1851. (III-456).

Type locality; Linn. **21**: 758.

988. A. TEXANA Heller. L. 52. Comanche Spring. June 1849. (IV-655).

Leaves very variable in size and texture.

989. ASCLEPIODORA DECUMBENS Gray. L. 280. New Braunfels. April 1850. (IV-653b).

GONOLOBUS LAEVIS Michx. New Braunfels. June 1851.

990. G. RETICULATUS Engelm. L. 545. New Braunfels. (June) 1851. (III-461).

One of the localities mentioned by Torrey in his description of *G. granulatus* in Mex. Bound. Surv. **2**: 165.

991. METASTELMA BARBIGERUM Scheele. L. 235. New Braunfels. June 1850. (III-459).

Type locality.

992. M. BARBIGERUM Scheele. L. 511. (New Braunfels). July 1851.

993. PHILIBERTIA CYNANCHOIDES Gray. L. 349. New Braunfels. Aug. 1850.

994. P. CYNANCHOIDES Gray. L. 628. New Braunfels. Aug. 1851.

P. CRISPA Hemsl. New Braunfels. 1851.

995. ROULINIA UNIFARIA Engelm. L. 333. (New Braunfels. June 1850). (III-460).

Type locality: "Upper Guadalupe not far from New Braunfels;" Linn. **21**: 760.

996. R. UNIFARIA Engelm. L. 454. New Braunfels. June 1851.

997. R. UNIFARIA Engelm. L. 623. (New Braunfels. Aug. 1851).

998. BUDDLEIA RACEMOSA Torr. L. 124. (Comanche Spring). July 1849. (III-485).

The leaves larger (3.5×6 cm.), glabrous and white pulverulent beneath, and panicled racemes more lax than in the normal of the species.

999. B. RACEMOSA Torr. L. 345. New Braunfels. June 1850. (III-485).

Heads either sessile or on peduncles up to 1.5 cm. long; leaves small and narrow (1×3.5 cm.), white pulverulent beneath.

1000. MITREOLA PETIOLATA T. & G. L. 150. (Comanche Spring. Aug.) 1849. (67).

1001. ERYTHRAEA BEYRICHII T. & G. L. 63. Comanche Spring. June 1849. (III-464).

1002. E. TEXENSIS Griseb. L. 56. Comanche Spring. May 1849. (III-463).

1003. EUSTOMA RUSSELLIANUM Griseb. L. 231. New Braunfels. June 1850. (274).

1004. GILIA INCISA Benth. L. 271. New Braunfels. June 1850. (III-466).

1005. G. RIGIDULA Benth. L. 490. New Braunfels. April 1850. (III-465).

1006. G. RUBRA Heller. L. 32. Comanche Spring. June 1849. (122).

1007. PHLOX PILOSA L. L. 7. San Antonio. April 1849.

A small form less than 3 dm. high. This small, densely glandular or viscid pubescent form with wider leaves and shorter corolla tube, extending from Missouri to Texas, should probably be separated as a variety at the opposite extreme from var. *detonsa*, (as var. *texana*).

1008. P. ROEMERIANA Scheele. L. 316. New Braunfels. April 1850. (III-467).

Type locality; Linn. **21**: 752.

1009. NAMA HISPIDUM Gray. L. 267. New Braunfels. May 1850. (130).

1010. N. JAMAICENSE L. L. 213. (New Braunfels. Nov.) 1849. (III-476).

1011. N. JAMAICENSE L. L. 542. New Braunfels. Nov. 1851.

1012. NEMOPHILA PHACELIOIDES Nutt. L. 521. New Braunfels. March 1851. (IV-666).

1013. PHACELIA CONGESTA Hook. L. 342. New Braunfels. May 1850. (III-478).

1014. P. CONGESTA Hook. L. 536. New Braunfels. April 1851.

1015. EHRETIA ELLIPTICA DC. L. 416. (New Braunfels). March 1850. (IV-665).

1016. E. ELLIPTICA DC. (New Braunfels). June 1850.

Leaves pustulate scabrous.

1017. E. ELLIPTICA DC. L.591. (New Braunfels). June 1851.

1018. HELIOTROPIUM INUNDATUM Swartz. L. 614. (New Braunfels). Aug. 1851. (133).

1019. H. TENELLUM Torr. (No data). (131).

1020. LITHOSPERMUM ANGUSTIFOLIUM Michx. L. 410. (New Braunfels). July 1850.

1021. L. BREVIFLORUM Engelm. & Gray. (New Braunfels). 1851. (278).

1022. Onosmodium bejariense DC. Comanche Spring. May 1849.

1023. O. bejariense DC. L. 274. New Braunfels. May 1850.

1024. O. bejariense DC. L. 518. New Braunfels. March 1851.

1025. O. Helleri Small. L. 15. Comanche Spring. May 1849.

1026. O. Helleri Small. L. 117. (Comanche Spring. July 1849).

1027. Convolvulus incanus Vahl. L. 290. New Braunfels. July 1850. (p. 44, n.; III-470).

Cuscuta pulcherrima Scheele. (New Braunfels). 1851. (III-475).

1028. C. glomerata Choisy. L. 106. Comanche Spring. Aug. 1849.

On *Helianthus Maximiliani* Schrader.

1029. C. hispidula Engelm. L. 31. Comanche Spring. June 1849. (III-474).

1030. Dichondra repens Forst. L. 438. New Braunfels. March 1850. (IV-663).

1031. Ipomoea Lindheimeri Gray. L. 622. New Braunfels. Aug. 1851.

1032. I. trifida Don var. Torreyana Gray. L. 190. 20 mi. N. of San Antonio. Sept. 1849.

1033. I. trifida Don var. Torreyana Gray. L. 305. Comanche Spring. June 1850.

1034. Bouchetia anomala Britt. & Rusby. L. 189. Comanche Spring. Oct. 1849. (III-471).

1035. B. anomala Britt. & Rusby. L. 346. New Braunfels. June 1850.

1036. Capsicum baccatum L. L. 358. New Braunfels. July 1850. (III-482).

1037. Chamaesaraca conioides Britt. L. 532. San Antonio. June 1851. (III-484b mainly).

1038. C. Coronopus Gray. L. 268. New Braunfels. May 1850. (IV-668; III-484).

1039. Nicotiana repanda Willd. L. 565. New Braunfels. May 1851. (III-483).

1040. N. TRIGONOPHYLLA Dunal. L. 300. (New Braunfels). May 1850.

1041. SOLANUM ELAEAGNIFOLIUM Cav. L. 328. (New Braunfels). June 1850. (135; IV-667).

1042. S. ROSTRATUM Dunal. L. 352. New Braunfels. July 1850. (III-480).

1043. S. TORREYI Gray. L. 282. (New Braunfels). May 1850. (281).

1044. S. TRIQUETRUM Cav. 525. New Braunfels. 1851. (III-481).

Form with large cordate leaves.

1045. S. TRIQUETRUM Cav. var. LINDHEIMERIANUM Gray. L. 422. New Braunfels. June 1850. (III-481).

Form with smaller leaves with more or less basal lobing; *S. Lindheimerianum* Scheele; Linn. **21**: 766.

1046. ANTIRRHINUM ANTIRRHINIFLORUM Small. L. 147. Comanche Spring. 1849. (III-487).

1047. CASTILLEIA INDIVISA Engelm. L. 292. (New Braunfels). April 1850. (284).

1048. CONOBEA MULTIFIDA Benth. L. 118. Comanche Spring. Aug. 1849. (138).

1049. C. MULTIFIDA Benth. L. 619. New Braunfels. Aug. 1851.

1050. GERARDIA ASPERA Dougl. L. 151. 40 mi. N. of San Antonio. Sept. 1849.

1051. G. DENSIFLORA Benth. L. 112. (Comanche Spring. July 1849).

1052. G. DENSIFLORA Benth. L. 379. New Braunfels. Aug. 1850.

1053. G. STRICTIFLORA Benth. L. 149. (Comanche Spring. Aug. 1849).

1054. HERPESTIS CHAMAEDRYOIDES HBK. L.75. Comanche Spring. July 1849. (III-486).

1055. H. CHAMAEDRYOIDES HBK. L. 616. New Braunfels. 1851.

1056. H. MONNIERA HBK. L. 621. New Braunfels. July 1851. (137).

1057. MIMULUS GLABRATUS HBK. L. 517. New Braunfels. Aug. 1851. (IV-671).

1058. SEYMERIA BIPINNATISECTA Seem. var. TEXANA Gray. L. 113. (Comanche Spring. July 1849). (IV-670).

1059. S. BIPINNATISECTA SEEM. var. TEXANA Gray. L. 148. Comanche Spring. Aug. 1849.

1060. VERONICA PEREGRINA L. L. 535. New Braunfels. March 1851.

1061. DIANTHERA AMERICANA L. L. 64. Comanche Spring. June 1849. (291).

1062. DICLIPTERA BRACHIATA Spreng. New Braunfels. 1850. (160).

The pubescent form.

1063. CALOPHANES LINEARIS Gray. L. 552. New Braunfels. May 1851. (III-504; IV-677).

1064. RUELLIA DRUMMONDIANA Gray. L. 351. New Braunfels. Aug. 1850. (III-506).

1065. R. PARRYI Gray. L. 396. New Braunfels. Aug. 1851.

1066. R. TUBEROSA L. L. 319. New Braunfels. July 1851. (157).

SIPHONOGLOSSA PILOSELLA Torr. New Braunfels. 1851. (III-505). Shady woods.

1067. CALLICARPA AMERICANA L. L. 297. New Braunfels. July 1850.

1068. LANTANA HORRIDA HBK. L.334. New Braunfels. May 1850. (III-503).

1069. LIPPIA CUNEIFOLIA Steud. var. INCISA (Small). L. 262. New Braunfels. July 1850. *Phyla incisa* Small.

1070. L. LIGUSTRINA Britton. L. 275. (New Braunfels). May 1850. (III-502).

1071. L. NODIFLORA Michx. L. 288. New Braunfels. May 1850. (156; IV-676).

1072. VERBENA BIPINNATIFIDA Nutt. L. 232. (New Braunfels). June 1850. (289).

1073. V. BIPINNATIFIDA Nutt. L. 10. (Comanche Spring. April 1849).

1074. V. CANESCENS HBK. L.294. New Braunfels. April 1850. (III-500).

1075. V. CILIATA Benth. L. 434. New Braunfels. March 1850. (III-501).

1076. V. OFFICINALIS L. L. 537. New Braunfels. April 1851. (155).

1077. V. URTICAEFOLIA L. L. 618. (New Braunfels). July 1851.

1078. BRAZORIA SCUTELLARIOIDES Engelm. & Gray. L. 55. (Comanche Spring). May 1849. (286).

Numbers 286 and 287 of Pl. Lind. 1:48 and 49, were accidentally transposed in the printing, thus differing from the exsiccatae issued.

1079. B. SCUTELLARIOIDES Engelm. & Gray. L. 553. (New Braunfels. May) 1851.

1080. HEDEOMA ACINOIDES Scheele. L. 264. New Braunfels. April 1850. (III-496).

1081. H. REVERCHONI Gray. L. 81. Comanche Spring. July 1849. (III-495).

1082. H. REVERCHONI Gray. L. 284? (New Braunfels). May 1850.

1083. MONARDA CITRIODORA Cerv. L. 35. Comanche Spring. June 1849. (153; III-497).

1084. M. PUNCTATA L. L. 250. New Braunfels. June 1850. (152).

1085. SALVIA AZUREA Lam. L. 114. Comanche Spring. Aug. 1849. (145).

1086. S. BALLOTAEFLORA Benth. L. 18. Comanche Spring. April 1849.

1087. S. BALLOTAEFLORA Benth. (No data).

1088. S. ENGELMANNI Gray. L. 276. New Braunfels. May 1850.

Rather hirsute, but otherwise fairly typical.

1089. S. ENGELMANNI Gray. L. 50. (Comanche Spring). June 1849.

Puberulent throughout; leaves unusually wide, ovate-elliptical to linear above; calyx somewhat hirsute.

1090. S. FARINACEA Benth. L. 204. New Braunfels. Nov. 1849. (III-498; IV-672).

1091. S. FARINACEA Benth. L. 564. (New Braunfels). May 1851.

1092. S. PENTSTEMONOIDES Kunth. L. 66. San Antonio. June 1849. (IV-673).

1093. S. ROEMERIANA Scheele. L. 255. New Braunfels. May 1850. (III-499).

Type locality; Linn. **22** : 586.

1094. S. TEXANA Torr. L. 561. New Braunfels. April 1851. (III-493, 494).

A widely branching, broad-leaved form.

1095. SCUTELLARIA DRUMMONDII Benth. L. 265. New Braunfels. June 1850. (143).

1096. STACHYS AGRARIA Cham. & Schlecht. L. 574. (New Braunfels). March 1851.

1097. TEUCRIUM LACINIATUM Torr. L. 23. Comanche Spring. May 1849. (IV-675).

1098. PLANTAGO HELLERI Small. L. 556. New Braunfels. May 1851.

1099. P. OCCIDENTALIS Decne. L. 534. New Braunfels. April 1851.

1100. P. WRIGHTIANA Decne. (New Braunfels). 1850. (III-511).

1101. BOERHAVIA LINEARIFOLIA Gray. L. 289. (New Braunfels). June 1850. (III-510).

1102. B. LINEARIFOLIA Gray. L. 584. (New Braunfels. May) 1851.

1103. MIRABILIS JALAPA L. L. 567. (New Braunfels). May 1851. (III-507).

1104. PARONYCHIA DICHOTOMA Nutt. L. 173. (Comanche Spring). Sept. 1849. (222).

1105. P. LINDHEIMERI Engelm. L. 144. (Comanche Spring). Sept. 1849. (335).

1106. ACNIDA TAMARISCINA Wood. L. 142. (Comanche Spring). Sept. 1849.

1107. ALTERNANTHERA REPENS Kuntze. L. 202. (New Braunfels). Nov. 1849. (III-512).

1108. A. REPENS Kuntze. L. 353. (New Braunfels). July 1850.

1109. AMARANTHUS SPINOSUS L. L. 354. (New Braunfels). July 1850.

1110. IRESINE PANICULATA Kuntze. L. 500. (New Braunfels). Nov. 1850. (165; III-514).

1111. I. PANICULATA Kuntze. (No data).

1112. CHENOPODIUM BERLANDIERI Moq. L. 369. (New Braunfels). Aug. 1850.

1113. RIVINA PORTULACCOIDES Nutt. L. 374. (New Braunfels). Aug. 1850. (295).

This differs from *R. laevis* L. in its large (3-4 mm. long) sepals and its large (3-4 mm.), dry fruit. It is probable that Nuttall's species will stand on a closer study of this genus. See Trans. Am. Phil. Soc. **5**: 167.

1114. ERIOGONUM ANNUUM Nutt. L. 355. (New Braunfels). July 1850. (III-516).

1115. E. LONGIFOLIUM Nutt. L. 73. (Comanche Spring). July 1849. (IV-684).

1116. POLYGONUM HYDROPIPEROIDES Michx. L. 450. (New Braunfels). Sept. 1850.

1117. P. LAPATHIFOLIUM L. L. 376. (New Braunfels). Aug. 1850.

1118. P. RAMOSISSIMUM Michx. L. 196. (Comanche Spring). Sept. 1849.

1119. LINDERA BENZOIN Blume. L. 449. (New Braunfels). Jan. 1850. (III-517).

1120. PHORADENDRON FLAVESCENS Nutt. var. ORBICULATUM Engelm. L. 115. (Comanche Spring). June 1849. (p. 212).

1121. P. FLAVESCENS Nutt. var. PUBESCENS Engelm. L. 227. (New Braunfels). Dec. 1849. (406). On *Ulmus*. Approximately the type locality.

1122. P. FLAVESCENS Nutt. var. PUBESCENS Engelm. L. 445. (New Braunfels). Jan. 1850.

1123. ANDRACHNE PHYLLANTHOIDES Coult. L. 47. (Comanche Spring). June 1849. (III-534).

1124. A. PHYLLANTHOIDES Coult. L. 48. (Comanche Spring). June 1849.

1125. A. PHYLLANTHOIDES Coult. var. REVERCHONI (Coult.)

L. 306. (New Braunfels). July 1850. *A. Reverchoni* Coult. Bot. West. Tex. 396.

Leaves of these specimens are somewhat smaller than those of Coulter's type. I doubt if this be more than a pubescent form of *A. phyllanthoides.*

1126. ARGITHAMNIA HUMILIS Muell. L. 197. (Comanche Spring). Oct. 1849. (306).

1127. A. MERCURIALINA Muell. L. 317. (New Braunfels). July 1850. (III-518).

Foliage nearly glabrous, turning reddish.

1128. BERNARDIA MYRICAEFOLIA Wats. L. 363. (New Braunfels). June 1850. (III-523, 524).

Apparently the type locality; Linn. **25**: 581.

1129. B. MYRICAEFOLIA Wats. L. 506. (New Braunfels). July 1851.

1130. CROTON FRUTICULOSUS Engelm. var. FRUTESCENS Muell. L. 134. (Comanche Spring). July 1849.

1131. C. FRUTICULOSUS Engelm. var. FRUTESCENS Muell. L. 498. (New Braunfels). Oct. 1850.

1132. C. TEXENSIS Muell. L. 251 & 252. (New Braunfels). June 1850. (305).

1133. JATROPHA TEXANA Muell. L. 371. (New Braunfels). Aug. 1850. (178).

1134. EUPHORBIA ANGUSTA Engelm. L. 123. (Comanche Spring). June 1849. (IV-694).

1135. E. ARKANSANA Engelm. & Gray. L. 28. (Comanche Spring). May 1849. (302).

1136. E. ARKANSANA Engelm. & Gray. L. 277. (New Braunfels). May 1850.

1137. E. FENDLERI T. & G. L. 62. (Comanche Spring). May 1849. (III-531). *E. rupicola* Scheele; Linn. **22**: 153.

1138. E. FENDLERI T. & G. L. 242. (New Braunfels). July 1850. (III-531).

1139. E. GLYPTOSPERMA Engelm. L. 243. (New Braunfels. July 1850).

1140. E. HETEROPHYLLA L. L. 541. (New Braunfels. April) 1851. (IV-696, 697).

1141. E. HETEROPHYLLA L. var. GRAMINIFOLIA Engelm. L. 140. (Comanche Spring). July 1849. Mex. Bound. Surv. **2**: 190.

1142. E. LONGICRURIS Scheele. L. 17. (Comanche Spring). March 1849. (III-529; IV-698).

1143. E. MACULATA L. L. 261. (New Braunfels). July 1850.

1144. E. MARGINATA Pursh. L. 133. (Comanche Spring). July 1849.

1145. E. MARGINATA Pursh. L. 395. (New Braunfels). Aug. 1850.

1146. E. NUTANS Lag. L. 493. (New Braunfels). Oct 1851. (IV-695).

1147. E. ROEMERIANA Scheele. L. 446. (New Braunfels). Feb. 1850. (III-528; IV-699).

1148. E. VILLIFERA Scheele. L. 308. (New Braunfels). July 1850. (III-530).

The type locality; Linn. **22**: 153.

1149. E. VILLIFERA Scheele. L. 508. (New Braunfels). Nov. 1851.

1150. E. ZYGOPHYLLOIDES Boiss. L. 246. (New Braunfels). July 1850.

1151. PHYLLANTHUS POLYGONOIDES Nutt. L. 49. (Comanche Spring). June 1849. (177).

1152. STILLINGIA ANGUSTIFOLIA Engelm. L. 61. (Comanche Spring. June 1849).

1153. S. ANGUSTIFOLIA Engelm. L. 244. (New Braunfels. July 1850). (III-519; IV-687). Proc. Am. Acad. **18**: 154. *S. sylvatica linearifolia* Muell. DC. Prod. **18**^{2}: 1158. *S. linearifolia* (Muell.) Small, not Wats. Proc. Am. Acad. **14**: 297.

1154. TRAGIA NEPETAEFOLIA Cav. var. RAMOSA Muell. L. 139. (Comanche Spring). Aug. 1849. (307).

1155. T. NEPETAEFOLIA Cav. var. TEUCRIIFOLIA Muell. L. 138. (Comanche Spring). July 1849. (III-522). *T. teucriifolia* Scheele; Linn. **25**: 586.

Diffusely twining; leaves narrowly oblong-deltoid, cordate at base; staminate sepals 3, rarely 4.

1156. T. STYLARIS Muell. var. ANGUSTIFOLIA Muell. L. 74. (Comanche Spring). July 1849. (III-521).

1157. CELTIS BERLANDIERI Klotzsch. L. 444. New Braunfels. March 1850.

It seems necessary to retain *C. Berlandieri* Klotzsch (Linn. **20**: 541), with thick, ovate, entire or subentire leaves, passing into *C. mississippiensis* Bosc on the one hand and into *C. reticulata* Torr. on the other. *C. texana* Scheele (Linn. **22**: 146) is a form of *C. Berlandieri* with larger and more acuminate leaves. Apparently the stone of *C. Berlandieri* may be either smooth or reticulated. It is unquestionably distinct from *C. mississippiensis*, which is found in the bottoms of the large rivers, while *C. Berlandieri* occurs normally on high, dry knolls and uplands and rarely attains the dignity of a tree. It extends northeastward into southwest Missouri.

1158. C. BERLANDIERI Klotzsch. New Braunfels. (August) 1850.

Form with reticulate stone.

1159. C. BERLANDIERI Klotzsch. (New Braunfels. Aug. or Sept.) 1850.

Form with smooth stone.

1160. C. PALLIDA Torr. L. 363? (New Braunfels). April 1850.

1161. C. PALLIDA Torr. New Braunfels. 1851.

1162. C. PALLIDA Torr. L. 495. (New Braunfels). July 1850.

1163. C. PALLIDA Torr. L. 605. New Braunfels. July 1851.

1164. C. RETICULATA Torr. L. 341. New Braunfels. May 1850. Form *C. Helleri* Small.

1165. MORUS MICROPHYLLA Buckley. L. 24. (Comanche Spring). April 1849. (IV-701).

1166. M. MICROPHYLLA Buckl. (Comanche Spring). May 1849.

A form with thick, lobed leaves, very hispid on both surfaces.

1167. M. MICROPHYLLA Buckl. L. 440. (New Braunfels). March 1850.

1168. M. RUBRA L. L. 437. (New Braunfels). March 1850.

Ovate-leaved form.

1169. M. RUBRA L. 1850.

Ovate-leaved form.

1170. M. RUBRA L. (New Braunfels). 1850.

Form with lobed leaves.

1171. M. RUBRA L. (No data).

A form with small, mostly lobed leaves, apparently approaching *M. microphylla* Buckl.

1172. ULMUS ALATA Michx. L. 389. (New Braunfels). Sept. 1850.

1173. U. CRASSIFOLIA Nutt. L. 389a. (New Braunfels). Sept. 1850. (p. 54).

1174. URTICA CHAMAEDRYOIDES Pursh. L. 405. (New Braunfels). March 1850. (179; IV-702).

1175. PLATANUS OCCIDENTALIS L. L. 343. (New Braunfels). May 1850.

1176. P. OCCIDENTALIS L. (New Braunfels). 1850.

1177. CARYA PECAN (Marsh.). L. 563. (New Braunfels. April 1851). *Juglans Pecan* Marsh.

1178. JUGLANS RUPESTRIS Engelm. L. 20. (Comanche Spring). May 1849.

1179. J. RUPESTRIS Engelm. L. 519. (New Braunfels). April 1851.

1180. QUERCUS TEXANA Buckl. L. 437. (New Braunfels). 1850.

1181. Q. TEXANA Buckl. (New Braunfels). March 1850.

1182. Q. TEXANA Buckl. L. 504. (New Braunfels). Oct. 1850.

1183. Q. TEXANA Buckl. L. 511. New Braunfels. March 1851.

1184. Q. VIRGINIANA Mill. L. 488. (New Braunfels). March 1850. (180).

1185. Q. VIRGINIANA Mill. L. 489. (New Braunfels). April 1850.

1186. Q. VIRGINIANA Mill. L. 469. (New Braunfels). Oct. 1850.

1187. Q. VIRGINIANA Mill. L. 470. (New Braunfels). Oct. 1850.

1188. Q. VIRGINIANA Mill. New Braunfels. March 1851.

1189. SALIX HUMBOLDTIANA Willd. L. 415. Piedernales River. (March) 1850.

These specimens are identical with those of Berlandier (Nos. 2317, 2274 and 3026), collected in adjacent Mexico and enumerated by Andersson (Mon. Sal. 16) as of this species, though I do not find it heretofore reported from the United States. It appears to be confluent with *S. nigra* Marsh. in this region, from which it is easily distinguished by its narrower dull-surfaced leaves.

1190. S. THURBERI Rowlee. L. 515. (New Braunfels. Aug. 1851). Bull. Torr. Bot, Club. **27**: 282.

1191. S. THURBERI Rowlee. L. 605. Dry bed of the Cibolo. Aug. 1851.

1192. EPHEDRA ANTISYPHILITICA Meyer. L. 428. Guadalupe River on rocks. March 1849.

1193. E. ANTISYPHILITICA Meyer. L. 273. Upper Guadalupe River on rocks. May 1850.

1194. JUNIPERUS SABINOIDES Sargent. L. 362b. New Braunfels. Feb. 1850. *J. occidentalis conjugens* Engelm.

1195. J. SABINOIDES Sarg. L. 362a. (New Braunfels). Feb. 1850.

1196. J. SABINOIDES Sarg. L. 228. New Braunfels. Feb. 1850.

1197. J. SABINOIDES Sarg. L. 228a. (New Braunfels). June 1850.

1198. TAXODIUM DISTICHUM Rich. L. 236. New Braunfels. July 1850. (181).

1199. SPIRANTHES CERNUA Rich. L. 203. (New Braunfels). Nov. 1849.

1200. TILLANDSIA RECURVATA L. L. 226. (New Braunfels). Dec. 1849. (III-539).

1201. T. RECURVATA L. L. 311. (New Braunfels). July 1850.

1202. T. USNEOIDES L. (New Braunfels). 1850.

1203. T. USNEOIDES L. L. 329. New Braunfels. Oct. (1850).

1204. HERBERTIA DRUMMONDIANA Herb. L. 325. (New Braunfels). April 1850.

1205. NEMASTYLIS ACUTA Herb. L. 562. (New Braunfels). April 1851. (IV-708).

1206. COOPERIA DRUMMONDII Herb. L. 107. (Comanche Spring). July 1849. (196; IV-707).

1207. ZEPHYRANTHES TEXANA Herb. L. 482. (New Braunfels). Oct. 1850. (314).

1208. ALLIUM MUTABILE Michx. L. 21. (Comanche Spring). April 1849. (199).

1209. A. NUTTALLII Wats. L. 528. New Braunfels. March, April 1851.

A co-type; Proc. Am. Acad. **14**: 227.

1210. CAMASSIA ANGUSTA (Engelm. & Gray). L. 532. (New Braunfels). April 1851. (198; III-541 in part). *C. Fraseri angusta* Torr.

If there be a difference in the time of blooming between this and *C. Fraseri* Torr., as stated in Pl. Lind. 1:29, the two are doubtless distinct species.

1211. DASYLIRION TEXANUM Scheele. L. 70a. Comanche Spring. June 1849. (III-548, 549).

1212. D. TEXANUM Scheele. L. 70b. Comanche Spring. June 1849.

1213. D. TEXANUM Scheele. L. 70c. Comanche Spring. June 1849.

1214. NOLINA LINDHEIMERIANA Wats. L. 45a. (Comanche Spring). May 1849. (III-551, 552).

1215. N. LINDHEIMERIANA Wats. L. 45c. (Comanche Spring). May 1849.

1216. N. LINDHEIMERIANA Wats. L. 45b. (Comanche Spring). May 1849.

1217. N. LINDHEIMERIANA Wats. L. 45d. (Comanche Spring). May 1849.

1218. N. TEXANA Wats. L. 2. (Comanche Spring. March 1849). (III-550; IV-712).

1219. NOTHOSCORDUM BIVALVE Britton. L. 524 (New Braunfels). April 1851.

1220. SCHOENOCAULON DRUMMONDII Gray. (New Braunfels). 1850. (III-543; IV-711).

1221. S. Drummondii Gray. L. 555. (New Braunfels). May 1851.

1222. Smilax Bona-nox L. L. 457. (New Braunfels). March 1850.

1223. S. Bona-nox L. L. 458. (New Braunfels). April 1850. *S. tamnoides* L.

1224. Yucca arkansana Trelease. New Braunfels. 1850. *Y. angustifolia mollis* Engelm.

1225. Y. rupicola Scheele. L. 36. (Comanche Spring). June 1849. (IV-709). *Y. tortifolia* Lind.

1226. Zygadenus Nuttallii Gray. L. 5. (Comanche Spring). March 1849.

1227. Heteranthera dubia MacM. L. 529. Guadalupe River at New Braunfels. Aug. 1851.

1228. H. limosa Willd. L. 67. (Comanche Spring). June 1849.

1229. Juncus acuminatus Michx.? Springs near New Braunfels. June 1850.

1230. Pistia Stratiotes L. L. 268. (New Braunfels). Oct. 1850.

1231. P. stratiotes L. L. 629. (New Braunfels). Aug. 1851.

1232. Echinodorus cordifolius Griseb. L. 195. (Comanche Spring). Sept. 1849. (IV-714).

Small plants from 1-3 dm. high with leaves from narrowly lanceolate to ovate-cordate.

1233. E. cordifolius Griseb. L. 373. (New Braunfels). Aug. 1850.

Small plants, rarely 2 dm. high.

1234. Potamogeton lonchites Tuckerm.? L. 116. (Comanche Spring). July 1849. (311).

Immature; leaf-blades and petioles unusually long.

1235. Cyperus acuminatus T. & G. L. 99. (Comanche Spring). July 1849.

Unusually tall plants, 3 dm. or more high.

1236. C. articulatus L. L. 594. (New Braunfels). June 1851.

1237. C. ESCULENTUS L. L. 96. (Comanche Spring). Aug. 1849.

1238. C. FILICULMIS Vahl. L. 98. (Comanche Spring). July 1849.

1239. C. INFLEXUS Muhl. L. 95. (Comanche Spring). Aug. 1849.

1240. DICROMENA COLORATA Hitchk. L. 143. (Comanche Spring). Sept. 1849. (IV-717).

1241. D. COLORATA Hitchk. L. 237. (New Braunfels). April 1850.

1242. D. NIVEA Boeckl. L. 93. (Comanche Spring). Aug. 1849. (IV-718).

ELEOCHARIS CELLULOSA Torr. New Braunfels. 1851. (IV-719).

1243. FIMBRISTYLIS SPADICEA Vahl. L. 94. (Comanche Spring). Aug. 1849.

1244. FUIRENA SIMPLEX Vahl. L. 206. (Comanche Spring). Aug. 1849. (III-557).

1245. HEMICARPHA DRUMMONDII Nees. L. 97. (Comanche Spring). July 1849. *H. micrantha* Britt. var. *aristulata* Coville. Torr. Bull. **21**: 36. *H. Drummondii* Nees. Mart. Fl. Bras. **2**[1]: 62. "Drummond, ad Castellum S. Louis: Drummond in Herb. Hook."

This probably came from Texas and not St. Louis, Mo., as the species is not known from the latter locality. There is nothing in the brief description of Nees to distinguish this from Coville's *H. micrantha aristulata* and it is probably a good species, distinguished from *H. micrantha* Britt. by its large size, 15-20 cm. high, marked acuminate scales and black akenes.

1246. ANDROPOGON FURCATUS Muhl. L. 159. Comanche Spring. Sept. 1849. (IV-741).

1247. A. SCOPARIUS Michx. L. 166. Comanche Spring. Sept. 1849.

1248. A. TORREYANUS Steud. L. 161. (Comanche Spring). Sept. 1849.

ARISTIDA PURPUREA Nutt. var. HOOKERI Trin. L. 87. Comanche Spring. 1849. —New Braunfels. 1849. *A. longiseta Hookeri* Merrill.

1249. BOUTELOUA CURTIPENDULA Torr. L. 357. (New Braunfels). July 1850. (III-568).

1250. B. HIRSUTA Lag. L. 89. Comanche Spring. Aug. 1849. (IV-731).

"Muskit grass." On rocky soil.

B. TEXANA Wats. (New Braunfels). 1851. (IV-732).

BUCHLOE DACTYLOIDES Engelm. L. 645. Cibolo River. May 1850. (III-569).

CHAETOCHLOA GLAUCA Scribn. New Braunfels. (Nov.) 1849.

1251. C. SETOSA Scribn. L. 164. Comanche Spring. Aug. 1849.

"In masses near thickets and on slopes."

Glabrous-leaved form; spikes varying from narrowly cylindrical to narrowly conical. Near *C. composita* Scribn., but most of the spikes narrower than in that species and longer and more acuminate than in *C. caudata*. It is probable that these related forms are all one species under varying conditions.

1252. CHRYSOPOGON AVENACEUS Benth. L. 167. (Comanche Spring). Sept. 1849. (211; IV-740).

1253. ELYMUS VIRGINICUS L. L. 570. New Braunfels. May 1851. (IV-739).

1254. E. VIRGINICUS L. L. 569. New Braunfels. May 1851.

A form differing from the normal of the species by its narrower empty glumes and elongated 4–5-flowered spikelets. Apparently approaching *E. striatus* Willd.

1255. EPICAMPES DISTICHOPHYLLA Vasey var. MUTICA Scribn. L. 176. (Comanche Spring). Oct. 1849. (IV-725).

Close to *E. ligulata* Scribn., but differs in its narrow conduplicate leaf with short (6 mm.) ligule.

1256. ERIOCHLOA SERICEA Munro. L. 290. (New Braunfels. 1850). (III-566).

1257. E. SERICEA Munro. L. 165. (Comanche Spring). Aug. 1849. (III-566).

1258. FESTUCA VERSUTA Beal. L. 91. Comanche Spring. June 1849. *F. texana* Vasey.

"On rocky soil under trees." Occasionally with proliferous spikelets.

1259. HILARIA TEXANA Nash. L. 92. (Comanche Spring). Aug. 1849.

1260. LEPTOCHLOA MUCRONATA Kunth. L. 84. (Comanche Spring). June 1849. (212).

1261. MELICA DIFFUSA Pursh. L. 85. (Comanche Spring. June 1849). (IV-729).

1262. MUHLENBERGIA REVERCHONI Vasey & Scribn. L. 88. (Comanche Spring). Aug. 1849.

Differs from the Reverchon type in its more strongly convolute, curved, filiform leaves and shorter (1 mm.) awn of the flowering glume. The panicle and spikelets seem normally purplish in both and the long tapering spikelet is characteristic. It differs from *M. trichopodes* Chapm. in its shorter, narrow, appressed panicle, its shorter, involute, filiform curved leaves and smaller size; the spikelets also are longer and more acuminate and the awn shorter.

1263. OPLISMENUS UNDULATIFOLIUS Beauv. L. 399. (New Braunfels). Aug. 1850. (210).

1264. PANICUM CAPILLARE L. L. 163. (Comanche Spring). Sept. 1849.

"On the Salado; thickets and roadsides."

P. LINDHEIMERI Nash. New Braunfels. 1849.

1265. P. PEDICELLATUM Vasey. L. 158. (Comanche Spring). Aug. 1849.

1266. P. PROLIFERUM Lam. L. 191. Comanche Spring. Sept. 1849.

1267. P. REVERCHONI Vasey. L. 162. Comanche Spring. Aug. 1849.

"In large bunches on fertile soil."

P. VIRGATUM L. L. 160. Comanche Spring. Sept. 1849. "Dry creek beds."

1268. P. VIRGATUM L. L. 160. Comanche Spring. Sept. 1849. (IV-723). *P. giganteum* Scheele.

1269. PASPALUM DISTICHUM L. L. 86. Comanche Spring. June 1849. "In water of spring."

1270. UNIOLA LATIFOLIA Michx. L. 370. New Braunfels. Aug. 1850. "Shady banks."

1271. ADIANTUM CAPILLUS–VENERIS L. L. 380. (New Braunfels). Aug. 1850.

1272. ANEIMIA MEXICANA Kl. L. 212. (New Braunfels). Nov. 1849. (III-572).

1273. ASPLENIUM RESILIENS Kze. L. 408. (New Braunfels. March) 1850.

1274. A. RESILIENS Kze. L. 215. (New Braunfels). Dec. 1849.

1275. DRYOPTERIS PATENS Ktze. var. MACROURA (Kaulf.). L. 382. (New Braunfels). July 1850. *Aspidium macrourum* Kaulf.

The large size of these fronds (1.5 m.), the long pinnae (1-2 dm.), with long falcate acute lobes and the thick texture seem to place our plants here, but it is doubtfully distinct from the smaller *D. patens* Ktze., which also occurs in this region.

1276. D. PATENS Ktze. var. MACROURA (Kaulf.). L. 322. (New Braunfels. 1850).

1277. NOTHOLAENA SINUATA Kaulf. L. 605. (New Braunfels). Nov. 1850. Form with deeply sinuate-dentate pinnae.

1278. N. SINUATA Kaulf. L. 414. (New Braunfels). May 1850.

Pinnae with fewer and more shallow lobes than in the typical form. A similar specimen in the Engelmann Herbarium is given as var. *argyrolepis* A. Br., but I have not been able to find the description.

1279. PELLAEA DEALBATA Prantl. L. 608. (New Braunfels). July 1851.

1280. P. FLEXUOSA Link. L. 463. (New Braunfels). May 1850.

1281. OPHIOGLOSSUM ENGELMANNI Prantl. L. 53. Comanche Spring. May 1849.

"Moist places of the higher mountain valleys." Type collection; Jahrb. Königl. Bot. Gart. Berlin. **3**: 318.

1282. MARSILIA UNCINATA A. Br. L. 125. (Comanche Spring). July 1849.

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In the preparation of this paper I have also had access to 1. An unpublished MS. containing Gray's notes on Scheele's "Flor von Texas." No date. 2. The unpublished letters of Dr. Gray to Dr. Engelmann. 1840–1883. 3. Numerous letters from members of Lindheimer's family and others, relating to his life and work. 4. Various newspaper articles and clippings relating to the same, including Lindheimer's Rückblicke auf das Entstehen und Leben der Neu Braunfelser Zeitung." (June 21, 1872).

INDEX TO PLANTAE LINDHEIMERIANAE PARTS I–III.

In this index, the names in Roman type have been conformed to the Vienna Code of 1905, as far as was possible in the time at my disposal. Other specific names, regarded as synonyms, are in Italics with cross-references, the modern equivalents and corrections being given for Parts I and II.

The numbers in all cases refer to pages, those of Part I being to the reprint (pp. 2–56), to which it is necessary to add 208 in any given case to make the page correspond with the same in the Boston Journal of Natural History (**5**: 210–264). The references to pages of the present publication (Part III) are printed in Italics to distinguish them from the pages of Part II similarly numbered.